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Environmental Impact Statement Conference

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Conference

U.S. Environmental Protection Agency
Region IV

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The primary thrust of the Environmental Impact Statement Conference, per se, was to address the various nuanees of statement preparation as well as the Administrative procedures involved thereof. The proceedings provides this overview together with specific detailed discussions of the New CEQ Guidelines, endangered species, prime & unique farmland, wild & scenic rivers. Revisions to the Clean Air Act & aspects of Archaelogy & historic preservation. The four workshops (see Appendix A-D) Divided the impact statement process into related informational groupings & provided a vehicle whereby the underlying reasons for Agency (EPA) Decisions/procedures could be discussed.

17. Key Words and Document Analysis. 17a. Descriptors

EPA
CEQ Guidelines

17b. Identifiers/Open-Ended Terms

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INTRODUCTION

"The purpose of the Conference is to get to know each other better and to discuss how we can improve the preparation and review of environmental impact statements. NEPA has been on the books now for seven years. I feel that one of the things that brought about NEPA was the fact that man's ability to modify his environment had increased much faster than his ability to predict the consequences of such actions. There has been considerable concern expressed about the costs in money and time to complete the NEPA process. We in EPA feel that all Federal agencies have a continuing responsibility to insure consideration of environmental amenities in governmental decision making. The cost of EIS preparation and review by Federal agencies in the Southeast is millions of dollars annually. I hope this Conference will help us improve our efficiency in accomplishing the NEPA process and will result in a significantly improved quality of the human environment."

SCHEDULE OF EVENTS/CONTENTS

Wednesday, December 7, 1977, Room 201

1:00 p.m.	Welcome	John C. White Regional Administrator EPA Region IV, Atlanta
1:15 p.m.	The New CEQ Guidelines	Nick Yost CEQ, Washington, D.C.
2:45 p.m.	Coffee Break	
3:00 p.m.	Endangered Species	Robert Cook Fish & Wildlife Service Atlanta
4:30 p.m.	Prime and Unique Farmlands	Mark Safley Soil Conservation Service Nashville, Tennessee
5:00 p.m.	Getting to Know Each Other	Crystal Ballroom Section E Hilton Hotel

Thursday, December 8, 1977, Room 104

8:15 a.m.	Wild and Scenic Rivers	Fred Klimas Bureau of Outdoor Recreation Atlanta (no abstract received)
		Claude Terry Claude Terry & Associates Atlanta (no abstract received)
9:30 a.m.	Coffee Break	
9:45 a.m.	Revision to Clean Air Act	Randy Mayfield EPA, Atlanta
10:45 a.m.	Archaeology and Historic Preservation	Elizabeth Lyon Historic Preservation Department of Natural Resources State of Georgia (no abstract received)
		Benny Keel National Park Service Atlanta
11:30 a.m.	Lunch	
1:00 p.m.	Workshops I, II, III, IV	
2:30 p.m.	Coffee Break	
2:45 p.m.	Workshops I, II, III, IV	
4:15 p.m.	Closing Remarks	John E. Hagan Chief, EIS Branch, EPA Atlanta

LIST OF ATTENDEES

CEQ's New Regulations
Nicholas C. Yost

I. PRESIDENT CARTER'S EXECUTIVE ORDER 11991 (May 24, 1977), which directs the Council on Environmental Quality to:

> "Issue regulations to Federal agencies for implementation of the procedural provisions of [NEPA]. Such regulations shall be developed after consultation with affected agencies and after such public hearings as shall be appropriate. They will be designed to make the environmental impact statement process more useful to decision-makers and the public; and to reduce paperwork and the accumulation of extraneous background data, in order to emphasize the need to focus on real environmental issues and alternatives. They will require impact statements to be concise, clear, and to the point, and supported by evidence that agencies have made the necessary environmental analyses. The Council shall include in its regulations procedures (1) for the early preparation of environmental impact statements, and (2) for the referral to the Council of conflicts between agencies concerning the implementation of [NEPA]."

II. PROCESS OF ADOPTING NEPA REGULATIONS

1. Federal Register Notices
2. Hearings
3. Questionnaire
4. Meetings with Agencies
5. Future Schedule

III. REDUCING PAPERWORK

Agencies shall reduce excess paperwork by:

(a) Reducing the length of environmental impact statements (section 1502.2(d)), such as by adopting appropriate page limits (section 1501.7(b)(1)).

(b) Preparing analytic rather than encyclopedic environmental impact statements (section 1502.2(a)).

(c) Discussing only briefly issues other than significant ones (section 1502.2(b)).

(d) Writing environmental impact statements in plain language (section 1502.8).

(e) Following a clear format for environmental impact statements (section 1502.10).

(f) Emphasizing the portions of the environmental impact statement that are useful to decisionmakers and the public (section 1502.14 and 1502.14) and reducing emphasis on background material (section 1502.16).

(g) Using the scoping process not only to identify significant environmental issues deserving of study, but also to dismiss insignificant issues, narrowing the scope of the environmental impact statement process accordingly (section 1501.7).

(h) Summarizing the environmental impact statement (section 1502.12) and circulating the summary instead of the entire environmental impact statement if the latter is unusually long (section 1502.19).

(i) Using program, policy, or plan environmental impact statements and tiering from statements of broad scope to those of narrower scope to eliminate repetitive discussions of the same issues (sections 1502.14 and 1502.20).

(j) Incorporating by reference (section 1502.21).

(k) Integrating NEPA requirements with other environmental review and consultation requirements (section 1502.25).

(l) Requiring comments to be as specific as possible (section 1503.3).

(m) Attaching and circulating only changes to the draft environmental impact statement, rather than rewriting and circulating the entire statement when changes are minor (sections 1503.4(b) and 1503.5(b)).

(n) Eliminating duplication with State and local procedures by providing for joint preparation (section 1506.2) and with other Federal procedures by providing for one agency's adoption of appropriate environmental documents prepared by another agency (section 1506.3).

(o) Combining environmental documents with other documents (section 1506.4).

(p) Using categorical exclusions to exclude from environmental impact statement requirements categories of actions which do not individually or cumulatively have a significant effect on the human environment (section 1508.4).

(q) Using a finding of no significant impact and not preparing an environmental impact statement when an action not otherwise excluded will not have a significant effect on the human environment (section 1508.12).

IV. REDUCING DELAY

Agencies shall reduce delay by:

(a) Integrating the NEPA process into early planning (section 1501.2).

(b) Emphasizing interagency cooperation before the environmental impact statement is drafted rather than adversary comments on a completed document (section 1501.6).

(c) Insuring the swift and fair resolution of lead agency disputes (section 1501.5).

(d) Using the scoping process for an early identification of what are and what are not the real issues (section 1501.7).

(e) Establishing appropriate time limits for the environmental impact statement process (sections 1501.7(b)(2) and 1501.8).

(f) Preparing environmental impact statements early in the process (section 1502.5).

(g) Integrating NEPA requirements with other environmental review and consultation requirements (section 1502.25).

(h) Eliminating duplication with State and local procedures by providing for joint preparation (section 1506.2) and with other Federal procedrues by providing for one agency's adoption of appropriate environmental documents prepared by another agency (section 1506.3).

(i) Combining environmental documents with other documents (section 1506.4).

(j) Using accelerated procedures for proposals for legislation (section 1506.8).

(k) Using categorical exclusions to exclude from environmental impact statement requirements categories of actions which do not individually or cumulatively have a significant effect on the human environment (section 1508.4).

(l) Using a finding of no significant impact and not preparing an environmental impact statement when an action not otherwise excluded will not have a significant effect on the human environment (section 1508.12).

V. NOT JUST BETTER PAPERWORK, BUT BETTER DECISIONS

1. All of 102(2)

2. Interdisciplinary preparation
   a. Agency capability to comply
   b. List of preparers

3. Write in plain language

4. Decision based on impartial analyses
   a. Restrictions of conflict of interest by applicants

5. Predecision Referrals --
   a. Sec. 309) Interim guidance
   b. NEPA)

6. Emphasis on decisions

   a. Record of decision -- how was EIS used
   b. Is the result environmentally satisfactory

7. Emphasis on follow-up

   a. Requires mitigation
   b. Monitoring and enforcement
   c. Report back

Our twin goals were those of reducing emphasis on paperwork and procedure and reemphasizing environmentally sensitive decisions. I hope we will have achieved those goals.

8

Endangered Species Act (1973) C. Robert Cooke, Jr.

While the Endangered Species Act of 1973 addresses all aspects of the preservation, and enhancement, and well-being of species threatened with extinction, the principal topic of our discussion deals with responsibilities of Federal Agencies as provided under Section 7 of the Act.

Section 7 states:

> *SEC. 7. The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this Act. All other Federal departments and agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 4 of this Act and by taking such action necessary to insure that actions authorized, funded, or carried out by them do not jeopardize the continued existence of such endangered species and threatened species or result in the destruction or modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected States, to be critical.*

I would now like to give a brief step down sequence of the Consultation Process under Section 7 of the Endangered Species Act of 1973. It might be noted here that consultation can only be carried out between a Federal agency and the Service.

It is the obligation and responsibility of the Federal agencies to analyze and review their activities and programs to ascertain if listed species or their habitats will be affected beneficially or detrimentally. If the Federal agencies or their authorized representatives desire the assistance of the FWS in determining the effects of their actions, informal consultation can and should be initiated at the area office level between the FWS and the Federal agencies or their authorized representatives. This level of communication will be particularly useful for obtaining information on listed species or their habitats or clarifying the consultation process. It may also assist the Federal agencies in confirming their analysis or judgment of beneficial or detrimental effects that could result from their planned action on listed species or their habitats. Such consultation is supplement to and not a substitute for the formal consultation.

If a Federal agency judges that listed species or their habitats will not be affected by the agency actions, the requirements of Section 7 will not apply.

If it is considered likely that listed species or their habitats could be affected, the agency should convey a written request for consultation to the Regional Director for the Region where the activity of program will be carried out.

The FWS may become aware of an agency's planning or conducting an activity or program that could affect listed species or their habitats that has not received the benefit of the consultation process. When this situation exists the Regional Director will promptly notify the agency stating the nature of the action, and requesting that the consultation process be initiated.

Following the request for consultation from the Federal agency the Regional Director may arrange for a "threshold examination" of the area in which the activity or program is proposed to be carried out. A threshold exam may consist of an on-site inspection of the area and/or a review of available information to make a preliminary assessment as to whether listed species or their habitats will be impacted.

If the Regional Director is of the opinion, as a result of the threshold exam, (1) the continued existence of a listed species will not be jeopardized, (2) the area to be impacted will not be determined by further examination to be critical habitat, or (3) the action will not result in the destriction or modification of critical habitat, the Agency will so be notified in writing and further consultation will be unnecessary.

If the Regional Director as a result of the threshold examination is of the opinion that the action may result in jeopardizing the continued existence of listed species or the destruction or adverse modification of critical habitat, he will so notify the agency, in writing and a time frame in which the consultation process should be completed will be established in agreement with the Federal agency. The Federal agency with the assistance of the FWS, state, private, or other sources of expertise shall then initiate appropriate surveys, studies, research and other means to obtain data and information relative to the impacts of the activity on listed species or their habitats. The data and information will be used by the Regional Director in rendering his final biological opinion.

If the Regional Director as a result of the threshold examination is of the opinion that the activity will destroy or modify habitat that may be essential to the survival or recovery of listed species but which has not been determined to be critical, he shall so notify the agency, in writing, and promptly initiate procedures to determine if the area is "critical habitat".

Consultation referred to in Section 7 will have been completed when the Regional Director has notified, in writing, the Federal Agency of the final biological opinion. If requested by the agency the FWS shall make recommendations. Such biological opinion and recommendations shall be accompanied by a statement of the reasons and biological evidence, including appropriate documentation, contributing to the opinions and recommendations. Upon receipt of the biological opinion and recommendations of the FWS, it will be the prerogative and responsibility of the Federal agency to determine the final course of action that it will follow in light of its statutory requirements.

The consultation and assistance process clearly should be reflected in a written record from its inception to completion. Where the consultation requirements or procedures related to other laws or procedures, such as NEPA and the Fish and Wildlife Coordination Act, have been used to facilitate the consultation and assistance process, it should be reflected clearly in the final documents required by these other laws (e.g., Environmental Impact Statement, environmental analyses, or assessments, Fish and Wildlife reports, etc.). However, the satisfaction of the requirements of these other statutes does not itself relieve a Federal agency of its obligation to comply with the consultation procedures.

I would like to close by saying that Region 4, Fish and Wildlife Service has recently initiated Area Offices. These Area Offices are responsible for all fish and wildlife activities in their areas including the initial steps of consultation. There are three area offices located at:

Jacksonville, Florida - Don Hankla, Area Manager
Asheville, N. C. - William Hickling, Area Manager
Jackson, Mississippi - Russell Earnest, Area Manager

I have a handout available that has the addresses and the telephone numbers of these offices and the states for which they are responsible.

Mr. Donald J. Hankla, Area Manager
U. S. Fish and Wildlife Service
900 San Marco Boulevard
Jacksonsville, Florida 32207
FTS 946-2267 Comm. 904/791-2267

Georgia, Florida, Commonwealth of Puerto Rico, & U S Virgin Islands

Mr. William C. Hickling, Area Manager
U. S. Fish and Wildlife Service
Federal Building, Room 279
Asheville, North Carolina 28801
FTS 672-0321 Comm. 704/258-2850, ext. 321

North Carolina, South Carolina, Tennessee, & Kentucky

Mr. Russell D. Earnest, Area Manager
U. S. Fish and Wildlife Service
200 East Pascagoula Street, Suite 490
Jackson, Mississippi 39201
FTS 490-4900 Comm. 601/969-4900

Alabama, Arkansas, Louisiana, & Mississippi

The Question of Prime Farmland

John M. Salley

Land is a resource American society has historically taken for granted. Like air and water it was thought to be plentiful. However, unlike air and water, awareness of its fragility and finite nature has been slow in coming. Demands on our land resource have been steadily increasing since this nation was first colonized. During the period 1950 to 1970 urban lands acquired 13.5 million rural acres to accommodate its expanding population and supporting structure. Accelerated loss of rural land, including cropland, has caused great national concern.

Concern at the national level has been voiced for the ability of the United States to maintain or even to increase its production of food and fiber. National concern has also been voiced for environmental values associated with land as a component of all our life systems. At state and local levels, the location as well as the amount and quality of farmland are important to state economic strength. Concern at this level is also focused on the support systems for farmland in addition to land value for compatible uses such as open space, water supply, wildlife habitat, recreation, and waste recycling.

Therefore, identification of prime and other types of farmland is important in that it serves interests at all levels. It serves as a "yardstick" of our national capacity for agricultural production. And it provides a way of assessing the incremental losses of productive land to urban and other development.

In 1974, USDA began a concentrated effort to study the prime farmland questions rising out of land use controversy. A national seminar on prime lands was held in 1975. Among other things, the seminar encouraged USDA to:

1. Develop a clear policy on the issue;
2. Begin immediately to define, inventory, and monitor land use trends involving prime lands;
3. Develop with CEQ procedures to give attention to prime farmland in the preparation and review of environmental impact statements; and,
4. Be an advocate of prime farmland retention and protection from premature or unwise conversion.

The Soil Conservation Service began inventory of important farmlands in 1975. Several types of land and land uses were and are being inventoried. Those categories are prime farmland, unique farmland, additional farmland of statewide importance, other farmland of local importance, urban builtup areas larger than 10 acres, water areas larger than 10 acres, and other land. The initial survey showed that there is an annual loss of about one million acres of prime farmland and another one million acres of lower quality land also capable of producing food and fiber. That amounts to over 5000 acres of farmland removed from production every day. But how are prime and unique farmlands defined?

Prime farmland is land best suited for producing food, feed, forage, fiber, and oilseed crops, and also available for these uses. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed according to modern farming methods. Qualitative criteria for identifying prime farmland are given in SCS Land Inventory and Monitoring Memorandum-3 (CFR Part 657, attached).

Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained, high quality and/or high yields of a specific crop when treated and managed according to modern farming methods. Examples of these special crops include citrus, olives, cranberries, and tart cherries.

Additional farmland of statewide importance is land, in addition to prime and unique farmlands, that is valuable for production of food, feed, fiber, forage, and oilseed crops. Criteria for defining and delineating this land are determined by appropriate state agencies. These lands are being defined according to specific, named kinds of soil that nearly qualify as prime farmland.

Approximately 1,200 counties in the United States have been selected as having the most urgent need for the important farmlands inventory. These are counties with significant acreage of prime farmland and are currently under urbanization pressure or pressure for other land use changes. The anticipated date for completion of these 1,200 county inventories is 1981. The nationwise inventory is expected to be completed by 1986.

After prime and other types of farmland have been identified it is up to local government to declare which lands are to be protected from development. USDA firmly believes that such designation of lands is a public policy process that should occur at state and local levels. Because of this we do not expect uniformity of rules and regulations. Many states have established mechanisms for regulating farmland loss which vary from state to state; all are practical.

At the federal level, the impact of prime farmland conversions on environmental quality has been recognized. The Council on Environmental Quality has notified all federal agencies that environmental impact statements should evaluate and weigh the effect of proposed projects on prime and unique farmlands. Where developments are planned and/or funded agencies must now consider the additional factor of soil resource. This additional factor in the planning "mix" is a reflection of concern for our ability to support efficient, stable agriculture and other values for years to come.

Prime farmland retention as a national agricultural policy interacts with other national policies. Farming uses a small, but important, amount of our total energy. Therefore, constant or diminishing allocation of energy to agriculture adds importance to the need for prime farmland retention because prime lands are more energy efficient than lands of lesser quality. If more land of lesser value must be devoted to agriculture to compensate for lost prime farmland production there will be greater energy expenditure and greater possibility of environmental damage. A national growth policy which ignores the necessity for farmland retention will accelerate prime farmland loss. However, we realize that retention of all farmland could cause dislocation of some needed non-farm land uses. This is why we feel that with good resource information and citizen participation rational and environmentally-compatible land use decisions can be made.

approval for operations and other watershrojects selected for deauthorization by the State Conservationist where it is unlikely that planned measures will be installed. The deauthorization of funding will remove the projects from consideration for funds, staff assistance, and other resource demands. The released resources will be available for concentration on high priority projects which can be installed in a more efficient way.

DATES: Effective date: February 7, 1978.

FOR FURTHER INFORMATION CONTACT:

J. W. Mitchell, Director, Watersheds Division, Soil Conservation Service, U.S. Department of Agriculture, P.O. Box 2890, Washington, D.C. 20013, 202-447-3527.

SUPPLEMENTARY INFORMATION: On Tuesday, December 6, 1977, the Soil Conservation Service published proposed rulemaking permitting administrative actions to deauthorize watershed projects.

DISCUSSION OF MAJOR COMMENTS: There was only one comment received. The respondent was concerned about the deauthorization of watershed projects included in an overall plan with downstream works by the Corps of Engineers where the timing of construction for Corps of Engineers projects had not kept up with those of the watershed projects. The respondent would be satisfied if the proposal would permit the delaying of watershed construction starts beyond the eight (8) years for coordination with Corps of Engineers projects. Section 622.55(a) states in part, "If, after agreement with sponsors, the State Conservationist determines it unlikely that planned measures will be installed, he will initiate project deauthorization action, as provided in paragraph (b) of this section. State Conservationists may elect to begin deauthorization sooner where it is unlikely that planned measures will be installed and sponsors concur in the deauthorbation." The determination to deauthorize is keyed to a decision that planned measures will not be installed. The delaying of a construction start beyond the eight (8) years is permitted if there are adequate assurances that the planned measure will be installed. Therefore, section 622.55 is published as final rules as follows:

Section 622.55—*Deauthorization of projects*

(a) By February 1, each calendar year, the State Conservationist shall examine watershed projects for which he is responsible in which no structural measures have been installed for eight (8) years after approval for installation of works of improvement (See section 622.40). If, after agreement with sponsors, the State Conservationist determines it unlikely that planned measures will be installed, he will initiate project deauthorization action, as provided in subsection (b) of this section. State Conservationists may elect to begin deauthorization sooner where it is unlikely that planned measures will be installed and sponsors concur in the deauthorization.

(b) The State Conservationist will notify the Administrator of the Soil Conservation Service and concerned State and other agencies, which had been notified that the project was approved for installation of works of improvements, of the proposed deauthorization. The environmental consequences of deauthorization will be documented by an appropriate Environmental Assessment and other steps, as required by SCS procedure (7 CFR 650). If authorization for funding by the Administrator of the Soil Conservation Service is subject to approval by resolution by a committee of Congress, the appropriate committee will be given written notice of the proposed deauthorization sixty (60) days before final deauthorization action is taken. Projects approved administratively will be deauthorized by State Conservationists after notification of the Administrator of the Soil Conservation Service. Notice of all project deauthorization will be published in the FEDERAL REGISTER by the State Conservationist. The State Conservationist will notify sponsors and concerned Federal, State, and local agencies of final action. Deauthorization proceedings may be canceled by the State Conservationist based upon public, Congressional, or sponsor action at any time before the notice is published.

(Catalog of Federal Domestic Assistance Program No. 10.904, Watershed Protection and Flood Prevention Program—Pub. L. 83-566, 16 U.S.C. (1001-1008).)

Dated: January 24, 1978.

R. M. DAVIS,
Administrator, Soil Conservation Service, U.S. Department of Agriculture.

[FR Doc. 78-2599 Filed 1-30-78; 8:45 am]

[3410-16]

SUBCHAPTER F—SUPPORT ACTIVITIES

PART 657—PRIME AND UNIQUE FARMLANDS

Subpart A—Important Farmlands Inventory

AGENCY: U.S. Department of Agriculture, Soil Conservation Service (SCS).

ACTION: Final rule.

SUMMARY: This rule prescribes general guidelines for a national program of inventorying prime and unique farmland, as well as other farmlands of statewide or local importance. It incl specific criteria for the definition of prime farmland. This rule is necessary because the Nation needs to know the extent and location of the best land for producing food, feed, fiber, forage, and oilseed crops.

EFFECTIVE DATE: January 31, 1978.

FOR FURTHER INFORMATION CONTACT:

R. I. Diderikseen, Director, Inventory and Monitoring Division, Soil Conservation Service, U.S. Department of Agriculture, P.O. Box 2890, Washington, D.C. 20013, telephone 202-447-6424.

SUPPLEMENTARY INFORMATION: On August 23, 1977, the Soil Conservation Service published in the FEDERAL REGISTER (42 FR 42359) proposed rules for the conduct of its Important Farmlands Inventory. During the 30-day commenting period, 16 letters were received from 4 Federal agencies, 5 State and Commonwealth agencies, 6 private firms associated with coal production, and 1 State Chamber of Commerce.

All written comments were given consideration in developing the final rule.

The full text of all comments received is on file and available for public inspection in: Room 5214, South Agriculture Building, Inventory and Monitoring Division, Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C. 20013.

DISCUSSION OF MAJOR COMMENTS

DEFINITION OF PRIME FARMLAND

One agency asked that SCS chang the prime farmland definition to in clude land that would qualify as prim farmland after irrigation is provided SCS has determined that this woul change the intent of the inventory The prime farmland definition in cludes areas that currently are irri gated or have proper drainage to pro vide the necessary water regime t meet the criteria. The inventory is t be kept current, as stated in § 657.2.

A Federal agency asked that SC add the following words t § 657.5(a)(2)(vi) "or are flooded onl under controlled conditions for irrigat ed farming." SCS has determined tha the criteria for irrigation are ade quately covered in § 657.5(a)(2)(i). Irri gation, regardless of the type used, i not commonly perceived as floodin and the statements should be clearl understood.

Another commenter proposed tha the entire frigid temperature regim include some soils too cold for norma farming practices. SCS recognizes thi problem, but is aware also that ther are soils within the frigid temperatur [illegible] to be included in the prime farmland definition. Many of the soils that are too cold for normal farming practices also have other features that will eliminate them from the prime farmland classification. Based on data available at this time the entire frigid temperature regime is included, provided all the other criteria are satisfied.

A private industry commenter suggests that an additional criterion be added to require that prime farmland soils have an A horizon with an accumulation of humified organic matter of not less than 0.8 percent associated with the mineral fraction. SCS agrees that organic matter content is a very important criterion for explaining the behavior of soils. However, SCS does not agree that an organic matter criterion is needed in the rules. Adding such a requirement would disqualify thousands of acres of highly productive irrigated soils that have low organic matter content. These are among the most productive soils of the Nation when treated with acceptable management techniques.

Another commenter suggests that the permeability rate be changed from 0.06 inch to 0.2 inch per hour in all soil horizons. SCS does not agree. Such a change would delete millions of acres of highly productive soils in the Mississippi Delta and other areas of the Western and Southeastern United States. Such soils require careful management techniques. However, these soils are some of the Nation's most productive lands.

A private company suggests that the criteria in § 657.5(a)(2)(i) be expanded to include the concept of cultivated crops adapted to the region and to define both cultivated crops and root zones. SCS agrees and has added the definitions as requested.

Several people expressed concern that the proposed definition of prime farmland was too rigid for individual States that might want to modify certain parameters to adequately reflect prime farmland. SCS agrees and has changed § 657.4(a)(2) to allow flexibility in application of the permeability criterion or permit the restricting of other specific criteria to assure that the most accurate identification of prime farmlands is made for each State. The national criteria will not change, but this flexibility permits State Conservationists, in cooperation with others, to identify soil mapping units that include a portion of both prime and nonprime farmlands or that have chemical and physical properties that cannot be determined accurately enough to clearly place the soil in or out of the criteria.

CONCERN FOR WETLANDS

A Federal agency was concerned that the definition of prime farmlands intend that the definition of prime farmland include areas that currently qualify as wetlands. They are eliminated from the criteria on the basis of § 657.5(a)(2)(iv).

CATEGORIES OF THE INVENTORY

Several private industry commenters objected to the inclusion of unique farmlands, farmlands of statewide importance, and farmlands of local importance in the inventory, arguing that they extend the intent of Congress as expressed in Pub. L. 95-87 which speaks only to the term prime farmland as it relates to the surface mining of coal. They argue the proposed definition does not conform to the definition set forth on page S8101 of the Congressional Record for May 20, 1977. SCS has determined that the specific definition for prime farmlands contained in § 657.5(a) is exactly the same as that which appeared on page S8101 of the Congressional Record for May 20, 1977, in all technical aspects. Minor changes were made from the wording in order to remove procedural guidelines and other sentences that did not relate specifically to scientific criteria for prime farmland. SCS rules (7 CFR Part 657), are not intended to be utilized only for the purposes of implementing Pub. L. 95-87. It establishes an important farmland inventory that covers four categories of important farmlands. Only one category, prime farmland, has applicability to the implementation of Pub. L. 95-87.

INVENTORY MAP SCALE

A Federal agency encourages the overall use of 1:100,000-scale base maps to provide uniformity among county maps and to assist in making comparisons among the national farmlands inventory and the national wetlands inventory. SCS concurs with the goal of keeping all maps to a consistent map accuracy and utilizing common scales wherever possible. However, in some counties with complex patterns, larger maps are needed. In those areas or where other demands dictate, State Conservationists may utilize base maps of other scales.

INVENTORY PROCEDURES

A State agency suggests that provisions should be made for addition or deletion of lands whose status has changed in regard to the prime farmland criteria. SCS will keep these inventories current and acreage will be deleted when it fails to meet the criteria for prime farmland.

A public service agency asked that SCS not proceed with the identification of important farmland until their State had the opportunity to test and modify definitions and ultimately pass State legislation to define the agricul-

SCS has determined that the system as proposed allows States to develop statewide definitions either by legislation or other policy. Definitions for unique farmland, farmland of statewide importance, and additional farmland of local importance are intentionally left broad enough to be defined appropriately at each State level. The definition of prime farmland must be uniformly applied in all States to provide a basis for national policy actions.

In accordance with these determinations, 7 CFR Part 657 is published as final rules.

(Catalog of Federal Domestic Assistance programs numbered 10.900 (Great Plains), 10.901 (Resource Conservation and Development), 10.902 (Soil and Water Conservation), 10.904 (Watershed Protection and Flood Prevention), and 10.906 (Plant Materials).)

Dated: January 23, 1978.

R. M. Davis,
Administrator,
Soil Conservation Service.

Subpart A—Important Farmlands Inventory

Sec.
657.1 Purpose.
657.2 Policy.
657.3 Applicability.
657.4 SCS Responsibilities.
657.5 Identification of important farmlands.

Authority: 16 U.S.C. 590a-f, q; 7 CFR 2.62; Pub. L. 95-87; 42 U.S.C. 4321 et seq.

Subpart A—Important Farmlands Inventory

§ 657.1 Purpose.

SCS is concerned about any action that tends to impair the productive capacity of American agriculture. The Nation needs to know the extent and location of the best land for producing food, feed, fiber, forage, and oilseed crops. In addition to prime and unique farmlands, farmlands that are of statewide and local importance for producing these crops also need to be identified.

§ 657.2 Policy.

It is SCS policy to make and keep current an inventory of the prime farmland and unique farmland of the Nation. This inventory is to be carried out in cooperation with other interested agencies at the national, State, and local levels of government. The objective of the inventory is to identify the extent and location of important rural lands needed to produce food, feed, fiber, forage, and oilseed crops.

§ 657.3 Applicability.

Inventories made under this memorandum do not constitute a designation of any land area to a specific land use. Such designations are the responsibility of appropriate local and State officials.

§ 657.4 SCS Responsibilities.

(a) *State Conservationist.* Each SCS State Conservationist is to:

(1) Provide leadership for inventories of important farmlands for the State, county, or other subdivision of the State. Each is to work with appropriate agencies of State government and others to establish priorities for making these inventories.

(2) Identify the soil mapping units within the State that qualify as prime. In doing this, State Conservationists, in consultation with the cooperators of the National Cooperative Soil Survey, have the flexibility to make local deviation from the permeability criterion or to be more restrictive for other specific criteria in order to ensure the most accurate identification of prime farmlands for a State. Each is to invite representatives of the Governor's office, agencies of the State government, and others to identify farmlands of statewide importance and unique farmlands that are to be inventoried within the framework of this memorandum.

(3) Prepare a statewide list of:

(i) Soil mapping units that meet the criteria for prime farmland;

(ii) Soil mapping units that are farmlands of statewide importance if the criteria used were based on soil information; and

(iii) Specific high-value food and fiber crops that are grown and, when combined with other favorable factors, qualify lands to meet the criteria for unique farmlands. Copies are to be furnished to SCS Field Offices and to SCS Technical Service Centers (TSC's). (*See* 7 CFR 600.3, 600.6.)

(4) Coordinate soil mapping units that qualify as prime farmlands with adjacent States, including the States responsible for the soil series. Since farmlands of statewide importance and unique farmlands are designated by others at the State level, the soil mapping units and areas identified need not be coordinated among States.

(5) Instruct SCS District Conservationists to arrange local review of lands identified as prime, unique, and additional farmlands of statewide importance by Conservation Districts and representatives of local agencies. This review is to determine if additional farmland should be identified to meet local decisionmaking needs.

(6) Make and publish each important farmland inventory on a base map of national map accuracy at an intermediate scale of 1:50,000 or 1:100,000. State Conservationists who need base maps of other scales are to submit their requests with justification to the Administrator for consideration.

(b) *Technical Service Centers.* Field representatives are to provide requested technical assistance to State Conservationists in inventorying prime and unique farmlands (see 7 CFR 600.2). This includes reviewing statewide lists of soil mapping units that meet the criteria for prime farmlands and resolving coordination problems that may occur among States for specific soil series or soil mapping units.

(c) *National Office.* The Assistant Administrator for Field Services (see 7 CFR 600.2) is to provide national leadership in preparing guidelines for inventorying prime farmlands and for national statistics and reports of prime farmlands.

§ 657.5 Identification of important farmlands.

(a) *Prime farmlands*—(1) *General.* Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land, but not urban built-up land or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding. Examples of soils that qualify as prime farmland are Palouse silt loam, 0 to 7 percent slopes; Brookston silty clay loam, drained; and Tama silty clay loam, 0 to 5 percent slopes.

(2) *Specific criteria.* Prime farmlands meet all the following criteria: Terms used in this section are defined in USDA publications: "Soil Taxonomy, Agriculture Handbook 436"; "Soil Survey Manual, Agriculture Handbook 18"; "Rainfall-erosion Losses From Cropland, Agriculture Handbook 282"; "Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss, Agriculture Handbook 346"; and "Saline and Alkali Soils, Agriculture Handbook 60."

(i) The soils have:

(A) Aquic, udic, ustic, or xeric moisture regimes and sufficient available water capacity within a depth of 40 inches (1 meter), or in the root zone (root zone is the part of the soil that is penetrated or can be penetrated by plant roots) if the root zone is less than 40 inches deep, to produce the commonly grown cultivated crops (cultivated crops include, but are not limited to, grain, forage, fiber, oilseed, sugar beets, sugarcane, vegetables, tobacco, orchard, vineyard, and bush fruit crops) adapted to the region in 7 or more years out of 10; or

(B) Xeric or ustic moisture regimes in which the available water capacity is limited, but the area has a developed irrigation water supply that is dependable (a dependable water supply is one in which enough water is available for irrigation in 8 out of 10 years for the crops commonly grown) and of adequate quality; or,

(C) Aridic or torric moisture regimes and the area has a developed irrigation water supply that is dependable and of adequate quality; and,

(ii) The soils have a temperature regime that is frigid, mesic, thermic, or hyperthermic (pergelic and cryic regimes are excluded). These are soils that, at a depth of 20 inches (50 cm), have a mean annual temperature higher than 32° F (0° C). In addition, the mean summer temperature at this depth in soils with an O horizon is higher than 47° F (8° C); in soils that have no O horizon, the mean summer temperature is higher than 59° F (15° C); and,

(iii) The soils have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches (1 meter) or in the root zone if the root zone is less than 40 inches deep; and,

(iv) The soils either have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown; and,

(v) The soils can be managed so that, in all horizons within a depth of 40 inches (1 meter) or in the root zone if the root zone is less than 40 inches deep, during part of each year the conductivity of the saturation extract is less than 4 mmhos/cm and the exchangable sodium percentage (ESP) is less than 15; and,

(vi) The soils are not flooded frequently during the growing season (less often than once in 2 years); and,

(vii) The product of K (erodibility factor) x percent slope is less than 2.0, and the product of I (soils erodibility) x C (climatic factor) does not exceed 60; and

(viii) The soils have a permeability rate of at least 0.06 inch (0.15 cm) per hour in the upper 20 inches (50 cm) and the mean annual soil temperature at a depth of 20 inches (50 cm) is less than 59° F (15° C); the permeability rate is not a limiting factor if the mean annual soil temperature is 59° F (15° C) or higher; and,

(ix) Less than 10 percent of the surface layer (upper 6 inches) in these soils consists of rock fragments coarser than 3 inches (7.6 cm).

(b) *Unique farmland*—(1) *General.* Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods. Examples of such crops are citrus, tree nuts, olives, cranberries, fruit, and vegetables.

(2) *Specific Characteristics of unique farmland.* (i) Is used for a specific high-value food or fiber crop; (ii) Has a moisture supply that is adequate for the specific crop; the supply is from stored moisture, precipitation, or a developed-irrigation system; (iii) Combines favorable factors of soil quality, growing season, temperature, humidity, air drainage, elevation, aspect, or other conditions, such as nearness to market, that favor the growth of a specific food or fiber crop.

(c) *Additional farmland of statewide importance.* This is land, in addition to prime and unique farmlands, that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. Criteria for defining and delineating this land are to be determined by the appropriate State agency or agencies. Generally, additional farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable. In some States, additional farmlands of statewide importance may include tracts of land that have been designated for agriculture by State law.

(d) *Additional farmland of local importance.* In some local areas there is concern for certain additional farmlands for the production of food, feed, fiber, forage, and oilseed crops, even though these lands are not identified as having national or statewide importance. Where appropriate, these lands are to be identified by the local agency or agencies concerned. In places, additional farmlands of local importance may include tracts of land that have been designated for agriculture by local ordinance.

[FR Doc. 78-2573 Filed 1-30-78; 8:45 am]

[3410-02]

CHAPTER IX—AGRICULTURAL MARKETING SERVICE (MARKETING AGREEMENTS AND ORDERS; FRUITS, VEGETABLES, NUTS), DEPARTMENT OF AGRICULTURE

[Orange and Grapefruit Reg. 29, Amdt. 1]

PART 906—ORANGES AND GRAPEFRUIT GROWN IN TEXAS

Amendment of Grade and Size Requirements

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Amendment to final rule.

SUMMARY: This action lowers the minimum size requirement to $3\frac{7}{16}$ inches for U.S. No. 1 grade Texas grapefruit that may be shipped to fresh market for the balance of the 1977-78 season. Such action is needed to provide for orderly marketing in the interest of producers and consumers.

EFFECTIVE DATE: February 1, 1978.

FOR FURTHER INFORMATION CONTACT:

Charles R. Brader, 202-447-6393.

SUPPLEMENTARY INFORMATION: *Findings.* Pursuant to the marketing agreement, as amended, and Order No. 906, as amended (7 CFR Part 906), regulating the handling of oranges and grapefruit grown in Texas, effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601-674), and upon the basis of the recommendation and information submitted by the Texas Valley Citrus Committee, established under this marketing order, and upon other information, it is found that the limitation of handling of grapefruit, as hereafter provided, will tend to effectuate the declared policy of the act.

The committee met on January 23, 1978, to consider supply and market conditions and other factors affecting the need for regulation, and recommended that the minimum size requirement be lowered to $3\frac{7}{16}$ inches (size 112's) for U.S. No. 1 grade grapefruit. Currently, such grapefruit are required to be at least $3\frac{9}{16}$ inches in diameter and at least U.S. No. 2 grade. The committee reports that it anticipates a good market demand for high quality 112 size grapefruit; that the grapefruit has not grown as much as anticipated earlier and as a result a large percentage of the remaining fruit on the trees consists of smaller sizes; and prices for grapefruit for processing are very low at this time and the processed products market is a poor alternative for small sized fruit.

It is further found that it is impracticable and contrary to the public interest to give preliminary notice, engage in public rulemaking, and postpone the effective date until March 2, 1978 (5 U.S.C. 553), because of insufficient time between the date when information became available upon which this amendment is based and the effective date necessary to effectuate the declared policy of the act. Interested persons were given an opportunity to submit information and views on the amendment at an open meeting. It is necessary to effectuate the declared purposes of the act to make these regulatory provisions effective as specified, and handlers have been apprised of such provisions and the effective time.

Paragraph (a)(4) in § 906.360 Orange and Grapefruit Regulation 29 (42 FR 57299), is hereby amended to read:

§ 906.360 Orange and Grapefruit Regulation 29.

Order. (a) * * *

* * * * *

(4) Such grapefruit are at least pack size 96, as such size is specified in § 51.630(e) of the U.S. Standards for Grapefruit (Texas and States other than Florida, California, and Arizona), except that the minimum diameter limit for pack size 96 grapefruit in any lot shall be $3\frac{9}{16}$ inches: *Provided,* That during the period February 1, 1978, through November 5, 1978, any handler may handle grapefruit smaller than pack size 96, provided such grapefruit grade at least U.S. No. 1 and they are at least pack size 112, as such size is specified in the aforesaid U.S. Standards for Grapefruit, except that the minimum diameter limit for pack size 112 grapefruit in any lot shall be $3\frac{7}{16}$ inches.

* * * * *

(Secs. 1-19, 48 Stat. 31, as amended; 7 U.S.C. 601-674.)

Dated: January 26, 1978.

CHARLES R. BRADER,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc. 78-2730 Filed 1-30-78; 8:45 am]

[3410-05]

CHAPTER XIV—COMMODITY CREDIT CORPORATION, DEPARTMENT OF AGRICULTURE

Subchapter C—Export Programs

[GSM-101]

PART 1487—NON-COMMERCIAL RISK ASSURANCE PROGRAM

Subpart—Assuring Against Defaults Caused by Non-Commercial Risk Occurrences

AGENCY: Commodity Credit Corporation, Department of Agriculture.

ACTION: Final rule.

SUMMARY: this rule sets forth the terms and conditions of Commodity

Revisions to the Clean AirAct
Randy Mayfield

INTRODUCTION

With the signing of the 1977 Clean Air Act Amendments on August 7, 1977, by President Carter, many new tasks have been placed upon the U. S. Environmental Protection Agency (EPA) and the States. One of the most pressing of these tasks is the requirement of Section 107(d) of the revised Act that EPA publish by February 3, 1978, a list of air quality control regions (AQCRs), or portions thereof, reflecting their attainment/non-attainment status for all criteria pollutants. The categories specified by the new Act are as follows:

(1) Areas violating national primary standards

(2) Areas violating national secondary standards (but not primary)

(3) Areas attaining standards

(4) Areas which cannot be classified on the basis of available data.

There are a number of implications of designating an area as attainment, non-attainment, or unclassified. For any pollutant, the designation of "non-attainment area" will require that a State implementation plan (SIP) revision be developed for that area by January 1, 1979. During this interim period the present EPA non-attainment policy regarding emission offsets (Interpretative Ruling, 41 Federal Register 55524-30, December 21, 1976) will be applied in the non-attainment areas. If an acceptable SIP is not developed, severe sanctions are provided: withholding of control agency grants, termination of certain other Federal funds, and a prohibition on construction of new major facilities.

For particulate matter or SO_2, where an area is unclassified or is designated as attainment, any major new or modified sources considering construction will face a review to ensure that they do not cause significant deterioration of air quality (i.e., prevention of significant air quality deterioration or PSD). In addition, it may be necessary to expand the PSD review to consider the impact of sources in non-attainment areas on adjacent clean-air areas. New plans to implement PSD requirements for particulate matter and SO_2 will be due from the States in early 1979. Until State plans are developed, the current PSD requirements (40 CFR 52.21) will remain in effect except for certain new provisions in the amended Act which modify these regulations effective immediately. These new provisions are those relating to air quality increments and ceilings, mandatory Class I areas, and State designation procedures for other than mandatory Class I areas.

For hydrocarbons, photochemical oxidants, carbon monoxide, and nitrogen oxides, where an area is designated as attainment or unclassified, only best available control technology (BACT) under PSD will be required until EPA promulgates a "definition" of significant deterioration for these pollutants.

The Act requires that States submit designations to EPA by December 5, 1977. EPA must then promulgate the lists in the Federal Register by February 3, 1978, with any modifications as necessary. When any modification to the list is proposed by the Administrator, the affected State will be notified and provided an opportunity to demonstrate why the proposed modification is inappropriate. EPA will compile all State lists with all modifications as may be necessary and publish them as required by the Act.

PREVENTION OF SIGNIFICANT DETERIORATION (PSD)

The amendments explicitly require plan revisions to prevent significant deterioration of areas cleaner than required by federal ambient air quality standards. It establishes three land classifications that are tied to specific allowable increases in particulate matter and sulfur dioxide over the baseline concentrations.

Class I increments are set to protect pristine areas, Class II to allow moderate development, and Class III to permit more extensive growth. The statute prescribes the following specific increments:

	Maximum Allowable Increase (ug/m^3)				
	TSP		SO_2		
	AGM	24-Hour	AAM	24-Hour	3-Hour
Class I	5	10	2	5	25
Class II	19	37	20	91	512
Class III	37	75	40	182	700

AGM = Annual geometric mean
AAM = Annual arithmetic mean

No increments are set for pollutants other than particulate matter and sulfur dioxide. However, EPA is directed to propose regulations within two years for increments or other means to prevent significant air quality deterioration from nitrogen oxides, hydrocarbons, carbon monoxide, and photochemical oxidants.

Most land areas are designated Class II and are available to the State for redesignation to Class I or III after following prescribed procedures. A State must consult with the federal land manager in redesignating federal lands, but does not need his concurrence. However, the law establishes as mandatory Class I areas all international parks, national wilderness areas, and national memorial parks over 5,000 acres, national parks over 6,000 acres in existence upon enactment and any Class I area established through EPA redesignation procedures before enactment. The mandatory Class I areas in Florida are the Everglades National Park and the Bradwell Bay, Saint Marks, and Okefenokee National Wilderness areas.

The federal land manager must review the air quality related values of national monuments, primitive areas, national preserves and recreation areas. Where appropriate, and after consultation with the State, he is to recommend redesignation to Class I within one year.

A number of areas over 10,000 acres are ineligible for designation to Class III. These are national monuments, national primitive areas, national preserves, national wild and scenic rivers, national wildlife refuges, national seashores, new national parks, new national wilderness areas, and other new areas in these categories created after enactment.

Twenty-eight (28) categories of major stationary sources with the potential to emit more than 100 tons per year of any air pollutant are subject to the rules. Also included are sources with the potential to emit 250 tons per year or more of any air pollutant.

VISIBILITY PROTECTION

The thrust of the PSD provision is to protect clear air areas from emissions from new and expanding plants. A critical provision introduced in the amendments targets the problem of impaired visibility in pristine areas caused by new and existing sources.

The amendments require the Secretary of the Interior, in consultation with federal land managers, to identify within six months mandatory Class I areas where visibility is an important value needing protection. EPA, after consultation with the Secretary, has one year to promulgate the list. The State then must impose best available retrofit technology on major stationary sources which contribute to the visibility problem. Retrofiting requirements apply to the 28 major sources identified in the PSD provision, but only to those sources with the potential to emit 250 tons per year or more of any pollutant.

The State has considerable authority in determining best available retrofit technology. Federal guidelines are limited to fossil fuel-fired electric generating plants with a total generating capacity over 750 megawatts.

THE INTERAGENCY ARCHEOLOGICAL PROGRAM

Mr. Benny Keel

In 1945, at the end of World II, Congress began appropriating funds for the construction of a system of multipurpose dams in river basins throughout the United States. American archeologists realized that construction activities, particularly the resultant reservoir impoundments, would obliterate untold cultural resources unless surveys and excavations were started immediately. An advisory group known as the Committee for the Recovery of Archeoloegical Remains, representing the community of scientists concerned, was formed to counsel Federal agencies participating in these water resource development programs. Thus the Interagency Archeological Salvage Program was launched, the original participants being the National Park Service, the Smithsonian Institution, the Bureau of Reclamation, and the Corps of Engineers.

From the beginning the National Park Service was the coordinating agency of the Interagency Archeological Salvage Program. As time passed, the Service drew upon personnel, facilities, and resources of more than 50 universities, colleges and museums, as well as the Smithsonian Institution, in pursuing archeological salvage operations in many water control projects. Park Service participating in this program was based on the Antiquities Act of 1906 (Public Law 59-209) and the Histoic Sites Act of 1935 (Public Law 74-292). The Antiquities Act gave the Secretary of the Interior responsibilitiy for protecting prehistoric and historic ruins, monuments, and objects situated on most Federal lands. The Secretary has delegated this responsibilty to the Director of the National Park Service.

In the Historic Sites Act of 1935, Congress declared that "It is a national policy to preserve to public use historic sites, buildings and objects of national significance...." The act empowers "the Secretary of the Interior through the National Park Service" to carry out this policy and authorizes the Service to conduct surveys, publish studies, and otherwise encourage the preservation of historic properties not federally owned.

Later, the Reservoir Act of 1960 (Public Law 86-523) gave the Department of the Interior, and through it the National Park Service, major responsibility for the preservation of archeological data that might be lost specifically through dam construction. To preserve or recover as much as possible of the Nation's prehistoric and historic heritage that would be destroyed by Federal actions, the Archeological and Historic Preservation Act (Public Law 93-291) was signed into law by the President in 1974. The new law amends the Reservoir Salvage Act of 1960 and places responsibility upon the Secretary of the Interior for coordinating and administering a nationwide program for the recovery, protection, and preservation of scientific, prehistoric, and historic data which otherwise would be damaged or destroyed as a result of Federal or federally related land modification activities. Such activities include, in addition to the dam construction cited in the Reservoir Salvage Act, pipeline and sewer construction, power transmission facility development, airport construction, and so forth.

Further measures have also been taken to preserve our cultural heritage. Responsibilties of the Secretary of the Interior were increased by the National Historic Preservation Act of 1966, which pledged Federal assistance to preservation efforts undertaken by State and local governments and by the private sector. The Act expanded the National Registor of Historic Places and established the Advisory Council on Historic Preservation to advise the President and Congress on programs calculated to enhance the Nation's efforts in historic preservation. In addition, the Advisory Council is given the opportunity to comment on the effect that Federal undertakings might have on National Register properties.

On January 1, 1970, the Congress passed the National Environmental Policy Act of 1969 (Public Law 91-190). Its principal purpose was establish a national policy regarding the environment and to provide for the establishment of a Council on Environmental Quality. Title 1, Section 10(b) states, "In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other considerations of national policy to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may... preserve important historic, cultural, and natural aspects of our national heritage..." Federal agencies were further directed by Title 1, Section 102(2)(c) to prepare environmental impact statements for each major Federal action having an effect on the environment.

As a complement to the National Environmental Policy Act, Executive Order 11593 was issued in May 1971. Among other things it requires the Secretary of the Interior to advise other Federal agencies in matters pertaining to the identification and evaluation of historic propoties located on lands under their jurisdicitions. Moreover, the Secretary is charged with developing and diseminiating to Federal, State, and local government units information concerning methods and techniques for preservation, restoration, and maintenance of historic proporties.

Operating from officers in Washington, D.C., Atlanta, Denver, and San Francisco, the Interagency Archeological Service Division today includes the following programs:

THE ARCHEOLOGICAL INVESTIGATIONS PROGRAM

Through this program contracts and cooperative agreements are entered into with Federal and State agencies and with qualified scientific and educational institutions for the purpose of implementing data recovery investigations. It monitors and coordinates all archeological efforts relating to Federal and federally licensed or assited construction projects and reports on them annually to the Congress. The program is funded by annual appropriations and through the transfer of funds from Federal agencies whose activities come under the purview of the Archeological and Historic Preservation Act of 1974.

THE ANTIQUITIES ACT PROGRAM

National Park Service responsibilities under the Antiquities Act of 1906 have been redelegated to the Department Consulting Archeologist, who grants permits for archeological (and paleontological) explorations on most federally owned or controlled lands. He reviews applications, coordinates them with all appropriate Federal agencies, and provides professional overview of all archeological research undertaken under Antiquities Act permits.

THE EXECUTIVE ORDER 11593 PROGRAM

Executive Order 11593 directs the Secretary of the Interior to provide general procedural and technical advice and assistance to Federal and State agencies and to local groups regarding identification, evaluation, and preservation of cultural resources. To implement the Executive Order, the National Park Service has appointed three full-time consultants to carry out the archeological responsibilities of the Department of the Interior; one consultant is assigned to the Interagency Archeological Services field offices listed herein.

These consultants are authorized to initiate contacts with Federal, State, and local agencies; to respond to requests for advice; and to serve as historic preservation policy and procedure generalists. They explain the Federal historic preservation mandate, discuss and aid in the analysis of agency problems, and as needed notify appropriate technical experts and services within other elements of the Office of Archeology and Historic Preservation.

National Park Service architects and architectural historians are also available to provide advice to Federal, State, and local agencies on specific technical preservation problems.

THE OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

was organized within the National Park Service early in 1967 to carry out more effectively those continuing programs that derive principally from the Historic Sites Act of 1935 and to prepare for an increased responsibility as a result of the National Historic Preservation Act of 1966. The office was conceived as the American equivalent of the historic monuments services functioning in many other countries.

This Workshop primarily dealt with the actual mechanics of environmental impact statement review to include a brief discussion of the administrative tracting procedures which EPA uses as a Statement circulates through its various technical support sections; the details of EPA's examination of a facility's adherence to both new and existing provisions of public laws, Executive Orders, etc.; and lastly, the criteria for assigning a rating to a given project. As might be expected, this last matter fostered some of the greatest interest of the Workshop because although each lead agency (local, State, Federal, etc.) has a multiplicity of concerns regarding a given project, one of their paramount considerations is its preception, environmental and otherwise, by the various review, permitting and enforcement agencies. In the case of EPA, an assessment and the subsequent rating is assigned after the Review Section and technical support branches have made a comprehensive evaluation of its environmental advisability. This rating is based on its impact on the environment and the adequacy of the Statement, per se.

The details of the system follow:

ENVIRONMENTAL IMPACT OF THE ACTION

LO -- Lack of Objection

EPA has no objections to the proposed action as described in the draft impact statement or suggests only minor changes in the proposed action.

ER -- Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these impacts.

EU -- Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Workshop I

ADEQUACY OF THE IMPACT STATEMENT

Category 1 -- Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2 -- Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3 -- Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonable available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

In order for our responses to meet the requisite time frame, a total of 10 copies of the Report should be forwarded, viz., 5 copies to EPA-Washington and 5 copies to the Regional Office in which the project is located. This may appear to be a rather large number; however, it allows for a more timely response by circulating the document simultaneously through the various technical support branches.

During the last year EPA has focused on a number of difficult issues relative to impact statement review, e.g., wetlands protection - Obion Creek, Ky., St. Phillips Island, S.C.; stream alteration - Black River, N. C., Swift Creek, N. C., and air quality - Interstate 40 and 75, Knox County, Tenn., Interstate 85, Fulton and DeKalb Counties, Ga.

WORKSHOP II - Involving Others in Complying with Executive Orders

Moderator - Sheppard N. Moore
Contractors, Third Party - Bob Flanders, Geo-Marine, Inc. Richardson, Texas
States - Sam Williams, Georgia State Clearinghouse, Atlanta, Georgia
Corps of Engineers - Edwin Reppner, Mobile District, Mobile Alabama
Universities - George Bowen, University of Tennessee, Knoxville, Tennessee
 Marty Wanielista, Florida Technical University, Orlando, Fla.
Media - Leonard R. Teel, Atlanta Journal, Atlanta, Georgia

The concept of involving more people in complying with executive orders was clearly demonstrated in the recent preparation of a third party EIS by Geo-Marine, Inc., and Region IV EPA concerning the expansion of Kentucky Utilities Company's Ghent Station on the Ohio River. The third procedure allows for the combination of Environmental Assessment Statement (EAS) and the Environmental Impact Statement (EIS) procedures by contracting an independent third party consultant to collect and formulate the complete EAS/EIS required under the National Environmental Policy Act of 1969 (NEPA). By employing the third party procedure, the Company and EPA can actively participate in and review all phases of EAS/EIS preparation. This allows for the early resolution of design, construction, or operation of problems of the proposed structure and the inclusion of the agreed-upon stipulations in the draft EAS/EIS. This document is then in a completed form to receive general comments of all interested parties.

The selection of the method (third and non-third party) by which NEPA requirements are fulfilled is made in a preliminary conference between the Company and EPA. If it is felt that the full EAS and EIS procedure will be necessary, the third party route is an option the Company has which can reduce the expenditure of time and work necessary to fulfill NEPA requirements.

If the third party route is decided upon, a Memorandum of Understanding between EPA and the Company is drawn up. The following is the Memorandum of Understanding for the recently completed third party EAS/EIS for Kentucky Utilities and is presented to illustrate the duties of each party in the third party procedure:

General Provisions

(1) EPA is ultimately responsible for assuring compliance with the requirements of NEPA.

(2) The Company will provide the supportive expertise, manpower and technical capabilities required for preparation of an EAS/EIS.

(3) The Company will retain Geo-Marine, Inc. as a consultant in accordance with the terms and conditions of the purchase order contract tendered by the Company to EPA and attached hereto as Exhibit "A", as well as the further provisions of this Memorandum of Understanding as same may be applicable; EPA approves the selection of Geo-Marine, Inc. (hereinafter "the Consultant"), and the Company represents that the Consultant does not and shall not have any financial or economic interest in the planning, the design, the construction, or the operation of the proposed power plant except as same may be provided in Exhibit "A".

(4) Both the Company and EPA shall:

(a) Actively participate in, and review all, substantial phases of EAS/EIS preparation.

(b) Designate a representative to review all EAS/EIS work as it is developed and completed.

(c) Have their respective representatives attend regular meetings with Federal, State, regional and local agencies for the purpose of increasing communication and receiving comments on preparation of an EAS/EIS.

(d) Insure coordination of effort and exchange of information among any planning, design, or construction engineers employed by the Company and the Consultant.

(5) In all instances involving questions as to the content or relevance of any material (including all data, analyses, and conclusions) in any material prepared by the Consultant, EPA will make the final determination on the inclusion or deletion of any such material.

(6) All costs incurred in connection with employment of the Consultant or any other entities participating in preparation of the EAS/EIS under constract with the Company shall be the sole responsibility of the Company.

Procedures

(1) The Company shall assure that the work of the Consultant shall be performed in accordance with NEPA, NEPA regulations, any relevant guidelines as they may be amended from time to time, local and state laws.

(2) The Company shall assure the satisfactory and timely performance and completion of the Consultant's work.

(3) The Company shall assure that EPA is provided, at a minimum, no less than two opportunities to review, comment, and make editorial changes on draft chapters

of the EAS/EIS as same are prepared by the Consultant. EPA will provide these comments in a timely manner, and the Company shall assure incorporation of the EPA comments into editorial changes prepared by the Consultant to the satisfaction of EPA. Final drafts of any documents will be submitted, as prepared, to EPA for review and approval.

(4) Any and all work performed by the Consultant pursuant to the preparation of the EAS/EIS will be submitted directly to the EPA. The Company may receive copies simultaneously but in no case will they be provided the opportunity to discuss, review, or edit the work prior to submission to the EPA.

(5) EPA, Company, and Consultant will agree on the Plan of Study before proceeding to prepare EAS/EIS.

(6) The Company shall assure that Consultant provides to EPA access and review of all procedures and underlying data in connection with contractors developing any and all reports, including, but not limited to, field reports, subcontractors reports, interviews with concerned private and public parties whether or not such information may be reflected in draft or final reports.

(7) It is understood that EPA may, at its option, work and communicate directly with the Consultant without participation of the Company, provided, however, EPA will keep Company advised of any communication.

(8) The Company shall assure the full cooperation of the Consultant and any other Company contractors with respect to organizing and conducting any public workshops, hearings, meetings, and the like, required by law to foster public familiarity and/or participation with respect to the EAS/EIS process.

(9) The Company shall be responsible for the costs of stenographic, clerical, graphics, layout, printing, and the like, with respect to preparation of the EAS and, should it be required, the Company shall be solely responsible for the aforesaid costs in order to provide to EPA fifteen copies of an EIS draft or final report as may be required and to include one "camera ready" copy sufficient for EPA's reproduction and distribution.

(10) Upon completion of a draft EIS, EPA will be responsible for organizing and conducting the public hearings required by 40 CFR Part 6. EPA will also be the recipient of all comments during the draft EIS review and comment period. This period (45-60 days) will be initiated when the Council on Environmental Quality publishes the "draft EIS receipt" in the Federal Register.

(11) At the close of the draft EIS review and comment period, EPA will identify the issues and comments submitted which will require response in the final EIS. EPA will direct these comments to the company and to the Consultant for preparation of proposed responses.

(12) Upon completion of any such responses, noted above, EPA will provide same, as they may be modified by EPA, to the Company and to the Consultant for inclusion into the final EIS. The Consultant will modify the text of the draft EIS as directed by EPA.

Termination

(1) Either party to this Memorandum of Understanding may terminate this agreement upon thirty (30) days written notice to the other party. During the intervening 30 days, both parties agree to actively attempt to resolve, in good faith, any disputes or disagreements.

(2) In the event of termination of this agreement upon completion by the Company and the Consultant of an EAS, EPA may initiate preparation of any federal EIS.

Through our experience in preparation of the first third party EAS/EIS in Region IV, advantages to both EPA and the Company have become apparent. These are as follows:

Advantages to EPA

1. Reduced paperwork

The plan of study is prepared jointly and approved at the beginning of EAS/EIS procedure. This insures that unnecessary work is reduced and that pertinent information is formulated into the EAS/EIS. The EPA also has control of EAS/EIS preparation at the early stages so that the document contains descriptive information in a concise matter that is suitable for decision makers and interested parties.

2. Reduced delays

Through consolidation EAS and EIS preparation, delays due to review time and revisions are reduced. The reduction of delays results in shorter overall preparation time and a more up-to-date document.

3. Objectivity of preparer

The third party contractor is initially nominated by the Company but then goes through an approval procedure by EPA to insure that the third party contractor has no financial or economic interest in the planning, the design, the construction, or the operation of the proposed structure.

Advantages to the Company

1. Savings of time

The most important advantage of the third party procedure is in the saving of time. By combining the EAS and EIS, delays are reduced thus reducing costs due to construction delays.

2. Review privilege

The Company is asked to review all substantial phases of EAS/EIS preparation. This active participation during the whole process enables the Company to correct inaccuracies during early stages of preparation and to monitor the progress of the preparation. Along the way, information can be volunteered by the Company that can expedite the process.

In conclusion, Geo-Marine, Inc., has been very pleased with the experience of preparing the first party EIS in Region IV. We feel that in many future projects it will be a valuable option for both the regulating agency and the company requiring EIS work.

Edwin Kappner explained that the Corps of Engineers wetland policies and responsibilities under Section 404 of PL 95-12 Clean Water Act Amendments of 1977, a study developed by the Georgia State Clearinghouse. George Bowen and Marty Wonielista covered courses and conferences at Universities.

In order to provide substantive comments that relate to specific resources (State laws, Departmental Rules and Regulations, etc.) on Environmental Impact Statements, the Georgia State Clearinghouse has published the Sourcebook of Review Criteria. These criteria are useful for the review of all types of applications and Environmental Statements. These are over 200 criteria directly related to EIS's. Copies of the book are available through the Southeastern Federal Regional Council, 2121 Marietta Towers, Atlanta, Georgia 30323, Attn: Mr. Hal Schimmacle, phone 404-221-4162.

Following presentations the panel answered questions from those in attendance.

WORKSHOP III

INFORMATION: THE BACKBONE OF THE ENVIRONMENT IMPACT STATEMENT

Carolyn W. Mitchell
Region IV Librarian
Moderator

Part I.

E.I.S. RESEARCH: AVAILABLE INFORMATION RESOURCES

INFORMATION SOURCES

Information Search Guidelines
EPA Library System ....Carolyn W. Mitchell, Librarian
U.S. EPA, Region IV Library
Atlanta, Ga
(FTS 257-4216; CML 404-881-4216)

DATA BANKS

NEDS
SAROAD.................................Barry Gilbert, Data Coordinator
Air Programs Branch, Region IV
Atlanta, GA
(FTS 257-2864; CML 404-881-2864)

STORET.................................David Hill, U.S. EPA, Region IV
Surveillance and Analysis Division
Athens, GA
(FTS 250-3113; CML 404-546-3113)

COMMERCIAL INFORMATION PRODUCTS

E.I.S..................................Joshua I. Smith, Information Resources Press
2100 M St., NE, Suite 316
Washington, D.C. 20037
(202-293-2600)

Part II.

INFORMATION MANAGEMENT AND NEPA: A CHECKLIST FOR IMPLEMENTATION

Kenneth W. Prest, Jr., Consultant
Environmental Licensing Group, Inc.
P.O. Box 7151, Pensacola, FL 32504
(904-433-0938)

WORKSHOP III

INFORMATION: THE BACKBONE OF THE ENVIRONMENT IMPACT STATEMENT

Carolyn W. Mitchell, Moderator

Part I

E.I.S. Research: Available Information Resources

Several types and areas of information have been brought together for this workshop, along with a checklist for utilizing information effectively in the E.I.S. process. Our presentation and resource packet (see Appendix) represent people, places, publications, services, and data bases of varying degrees of specialization within the environmental area. Some resources are free, and some, including ones provided by the federal government, are fee-based. An attempt has been made to show the variety and location of these resources.

An information search can be complex and difficult. Basic guidelines should be considered before embarking on a search in order to avoid frustrating, time-comsuming, and inconclusive results. When addressing environmental issues it is important to remember that the passage of NEPA in 1969 and the organization of EPA in 1970 mark the beginning of the nation's focus on this area, therefore sources which pre-date these events should be used with caution. Secondly, it is important to ask someone who knows; that is to begin with an appropriate professional: an information specialist, librarian, or resource person. Do not rely on clerical help. It is equally important to communicate to that person what the problem is, how the information will be used, and in what time frame it is needed. "Do not re-invent the wheel," is another basic guideline. The events of 1969 and 1970 have also brought about a proliferation of environmental information sources, therefore it can be assumed that the problem or a perspective on the problem has in all likelihood been researched before.

It is important to consider:
1. Who would know?
2. Who would care?
3. Who would care enough to publish or package it?[1]

EPA Library System

A good starting place for general environmental information is the EPA Library System, which includes twenty-seven regional, lab, and headquarters libraries. The libraries' function is to support EPA's mission, a mission which embraces anyone with a legitimate information need. Therefore, the collections and some reference services are available to outside users at no charge. The Region IV Library is part of this network. A depository for Agency reports, it has a special collection of Southeast environmental publications. The Library's professional staff can provide the user access to both primary and secondary sources of information--that is, people as well as publications.

Environmental Data Banks

More specific sources of information are represented by our speakers. Barry Gilbert, Data Coordinator, EPA Air Programs Branch, works with NEDS and SAROAD, two centralized data banks developed and managed by EPA. NEDS contains engineering data, i.e., annual emissions and operating characteristics on sources of air pollution throughout the U.S. SAROAD contains ambient air data collected at monitoring sites throughout the nation. Reasonable requests for data from these banks are serviced for no charge.

STORET, water data bank counterpart to NEDS and SAROAD, is not a free service, although access to the system is available to all legitimate requestors. STORET is a repository for water quality data from over

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[1] Alden, Todd, Finding Facts Fast. (New York, New York: William Morrow & Company, 1972) p. 7.

200,000 sampling sites; it provides the user with a variety of tools to retrieve, summarize, analyze, and display this data. David Hill, Region IV's Surveillance and Analysis Division in Athens, is responsible for STORET.

A new commercial publication, EIS:Key to Environmental Impact Statements, is an example of one of the outstanding new environmental information services which have been generated since the passage of NEPA. EIS, a subscription, provides a microfiche copy of both draft and final impact statements, and a well-organized journal of abstracts with geographic, subject, and agency indexes. Published by Information Resources Press, Washington D.C., this service is available in EPA regional and headquarters libraries.

Part II

Checklist For Information Management in the NEPA Process, by Kenneth W. Prest

One of the most frequent criticisms of environmental impact statements is that they are full of "information", but contain little or no evaluation or assessment of this information. Kenneth W. Prest, an environmental consultant with considerable E.I.S. experience, has prepared a checklist for effective implementation and evaluation in the NEPA process:

STEP I: DEFINING THE ACTION, PROBLEM, OR ISSUE TO BE ADDRESSED

1. What, specifically, is the problem or issue to be addressed or the action to be taken? (This should be written down for greatest clarification.)

2. What, specifically, is my agency's (section's, department's) role in the NEPA process?

3. What specific action must I take on the problem?

4. What statutory, administrative, policy or attitudinal limitations have been placed on defining the problem and on my role in carrying out my responsibilities?

5. How have similar issues been handled in the past?

6. Should the current problem be approached traditionally or is a new perspective required?

7. Within what time frame must I act?

8. How will my actions interrelate with those of other sections, branches, departments, or agencies involved in the same process?

9. What can I anticipate to be the end result of the process? (This can be particularly important since there can be several means to any end.)

10. What is the extent (significance and magnitude) of public interest in the problem or issue? (Identifying public interest at this stage is most important in broadening one's perspective of issues.)

11. What consequences, long term as well as short term, can reasonably be expected to result from action I take in the NEPA process? (Consequences should be considered as they may result both in the private sector and public domain.)

STEP II: ACQUIRING INFORMATION TO IDENTIFY AND EVALUATE THE PROBLEM

1. What specific information do I need to carry out my responsibilities? (This should include information to satisfy specific requirements as well as information on the process used to achieve objectives.)

2. How will the information I produce be used in the overall NEPA process?

3. If a technological process is involved, do I clearly understand how this process works and interacts with the natural air, water, and land resources and biological and human systems supporting it?

4. In developing technical information, how much detail is needed? What is the minimum level of information I need to carry out my responsibilities and produce a defensible recommendation?

5. To what extent can I rely on secondary information in lieu of primary information? Can my actions be justified on a qualitative basis or must I develop quantitative input also?

6. Can I set priorities on the kind and amount of information

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that could be used in my review?

7. Where is the information I need located? Is it available? (People as well as documents should be the basis for consideration.)

8. Is the information in a readily usable form or will it require extensive manipulation and interpretation?

9. Can I obtain the information? If so, how?

10. How long will it take to obtain the information? Can I jusitify extensive researching or other delay in receipt of specific information?

11. What alternatives are there if I can not obtain the desired information?

STEP III: EVALUATING INFORMATION TO DETERNINE ITS USEFULNESS

1. Is the information obtained relevant to the problem? (Relevancy can be reviewed in terms of generally accepted basic principles and as pertinent site- or action-specific requirements.)

2. How will the information help resolve the problem or complete my responsibilities?

3. Is the information obtained valid? If the validity is questionable, how can this be resolved? Where or to whom can I go for clarification?

4. Regarding site- or action-specific information, can the information be applied directly or must its use first be conditioned by assumptions?

5. Are the assumptions used in the evaluation reasonable? Can they be, (or have they been), factually and logically stated? Are they documented as generally accepted or must they be considered unique to the particular situation under review?

6. Under what conditions would the assumptions be invalid? Might these conditions occur in the situation at hand?

7. What are the effects or consequences of using certain assumptions as opposed to others? Can the choice among assumptions be justified; theoretically, empirically, administratively (due to policy or law)?

8. Once collected, can the information be reused in other situations? Is it worth storing for future use?

STEP IV: IDENTIFYING AND EVALUATING ALTERNATIVE APPLICATIONS

1. Considering how the problem was defined and what information is available to be applied to the problem, what options are reasonable for solving the problem or carrying out responsibilities?
2. How can the information be most effectively applied?
3. Will selecting one option over another limit future flexibility or actions?
4. Will prevailing influences (i.e., social, legal, attitudinal, political, limits-of-knowledge) have an effect on the implementation of the alternative chosen? Will these influences be the same at the time the final decision is made as they are now?
5. Is the alternative and the procedure used to select the alternative consistent with the overall impementation of the NEPA process?

STEP V: DECIDING THE SPECIFIC COURSE OF ACTION

1. Have I satisfied my specific statutory and/or job related responsibilities?
2. Is my action defensible? Would I make the same decision a year from now given the same limits of knowledge, resources, and circumstances?
3. Have I documented the course of events leading up to my decision and recommendation?
4. Will my action enhance rather than complicate the NEPA process?

STEP VI: IMPLEMENTING THE CHOSEN COURSE OF ACTION

1. Have I prepared and communicated my position clearly and effectively? Have I used a form (tables, figures, text) which best communicates my intent?
2. Have I constructed my position logically and completely so that the reader will not have to assume my intent, or misconstrue my meaning?
3. Have I presented reasonable alternatives and recommended the "best" course of action given the circumstances and limitations of time, manpower, and information?
4. Can I confidently defend my action under scrutiny?

EPILOGUE

The CHECKLIST FOR INFORMATION MANAGEMENT IN THE NEPA PROCESS has been prepared as a guide to aid effective implementation of decision-making as directed by the National Environmental Policy Act. Its value rests not so much with the specific questions asked, or responses obtained, but as a road map for a systematic process employed to identify problems, develop meaningful information, evaluate alternatives, decide a responsible course of action and implement, knowingly, the decision. As required, the user should adopt the process to his specific needs.

Information management is a skill which must be practiced. Knowledge about organizations, systems, management, and human behavior is as important as specific technical understanding. Subsequently, it will behoove the individual involved in the NEPA process to:

1. Generally broaden his skills and knowledge;
2. Begin early to identify information sources and to build information networks; and
3. Recognize and accept that all decisions must be made within constraints. Learn how to use these constraints advantageously.

With this approach, working within the NEPA framework should become more objective, more effective, more productive, and more enjoyable to all involved.

Environmental Impact Statement Conference

December 7-8 1977

WORKSHOP IV

ENERGY RELATED ENVIRONMENTAL IMPACT STATEMENTS

Moderator: C. L. Wakamo, EPA

Participants: Charlie Kaplan, Thermal Analysis, EPA; Randy Mayfield, Air Programs, EPA; Buck Oven, State of Florida; Wally Walquist, Department of Interior; Don Mcleod, Don Stinnett, and David Gengozian, TVA; Ron Ballard, NRC; George Knighton, NRC; Joe Binder, REA; B. H. Rankin, Warren Zurn, DOE.

The workshop was directed toward gaining an appreciation of what is needed for new energy source EIS's. Various aspects of power plant siting and interagency cooperation were the major topics covered in the workshop. The agenda included site certification responsibility from a state perspective, fish and wildlife impacts from the Dept. of Interior viewpoint, screening of power plant sites and early siting experiences of TVA.

The evaluation of environmental technical specifications for nuclear power plants was reviewed by NCR, highlighting the impact of NEPA and FWPCA amendments of 1972. Review of the last two years experience in implementation of NRC-EPA second memorandum of understanding regarding respective responsibilities under NEPA and FWPCA was presented by NRC. The experience that both agencies have gained operating under the agreement should be beneficial in implementation of the proposed CEQ regulations on procedural provisions of NEPA (6/9/78 Part II). Discussion of other proposed lead agency agreements under consideration was discussed by REA. The workshop session ended after highlights on the coal conversion program was presented by Department of Energy representatives.

The following three papers give a representative sampling of the workshop activity dealing with energy related environmental impact statements.

TVA'S POWER PLANT SITING PROGRAM

DONALD S. STINNETT, TVA

INTRODUCTION

The TVA power plant siting program has developed from TVA's activities involving the supplying of electric power to the 201-county TVA power service area (illustrated in figure 1),* and out of its involvement with a broad range of regional development activities. The program is dynamic and responds to the changing conditions in the fields of energy production and regional development. From the early 1950's to the mid-1960's, for example, TVA's power plant siting program was primarily geared toward the identification and investigation of locations for coal-fired facilities. Later, in the mid- to late 1970's, TVA's power plant siting activities expanded to include nuclear as well as coal-fired facilities. With the advent of each new energy-producing technology, criteria for considering suitable and desirable locations for new facilities are developed. These physical criteria, along with regulatory guidelines and statutes, effectively govern the siting of new power plants.

Due to the constantly changing institutional requirements and improved energy-producing technologies, the processes associated with siting a power plant today are not what they were two years ago and probably will not be the same two years hence. Therefore, working from the basic premise that there are no perfect power plant sites, in that some impacts will be evident at any site, and that new power facilities will be needed in the future to assure that energy supplies keep pace with projected use, we can see that an effective and efficient power plant siting program, continually evolving to meet changing conditions, is not only desirable but a necessity.

THE BASIC AIMS

It has been TVA's aim in developing its power plant siting program to assure that siting studies are comprehensive, thorough, effective, and efficient, as well as sensitive to the demands of changing technology and regulatory limitations. These factors have been generally incorporated into three program goals.

> Conduct Thorough Site Investigations. Throughout the investigative process, TVA solicits broad-based information concerning the many factors associated with site suitability determinations. Interdisciplinary reviews emphasize and assure that the full scope and range of pertinent issues are developed in site assessments.

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*All figures are attached at the end of this report.

Promote Coordination with Federal, State, and Local Agencies. As a regional resource development agency, TVA recognizes the importance of information exchanges and the mutual usefulness of coordination and cooperation in development of the region's resources. In this regard, TVA wants to further develop the spirit of cooperation in issues surrounding the Tennessee Valley region's energy future, particularly with regard to power facility siting.

Constantly Strive for Improvement. In developing an investigative program as comprehensive as that required for power plant siting, the issues often become complex and demand rigorous study. As with any system, there is the potential for improvement in program processes and methodologies. Improvement of the overall process is the constant driving force behind the program and should result in benefits for all of those involved.

PROGRAM DESCRIPTION

The TVA site study program is structured around two separate and distinct processes--the inventory siting process and the project siting process. The inventory siting process involves long-term, ongoing studies that are not geared to any specific power plant. Its purpose is to review large geographic areas and to identify, investigate, and select sites believed to be suitable for future power facilities. Sites believed to be suitable and desirable for future facilities may be acquired and placed in an inventory status until such time that a specific project is designated for the site. At present, TVA has two sites in its inventory--Saltillo and Murphy Hill (figure 2). Saltillo is located in southwestern Tennessee along the Tennessee River, just north of Pickwick Landing Dam. Murphy Hill is located in northwestern Alabama on the Tennessee River, east of Guntersville Dam.

The project siting process, on the other hand, is geared toward short-term assessments of alternative candidate locations for a specifically designated project. This process works concurrently with the inventory program and together they play integral parts in TVA's overall energy planning and development program.

In planning for a power facility, many factors must be considered and many inputs from a varying array of Federal, state, and local agencies and organizations, as well as private citizens, must ultimately be included. The coordination and review of these inputs understandably takes a considerable amount of time and can potentially impact many project schedules. One of TVA's major concerns, therefore, is the recognition of major siting issues as early in the site study process as possible so that any concerns held by various individuals and interest groups may be addressed as appropriate. This should effectively remove many issues from the critical path of a project and facilitate cooperative planning, coordination, and allow for greater flexibility in decision making.

TVA ORGANIZATIONAL STRUCTURE

To facilitate understanding of TVA's siting program it is important to identify the basic organizational structure established within the agency to handle this function. The siting program, because of its interdisciplinary nature, receives inputs from almost every division within TVA. An organizational chart depicting those divisions which play major roles in the power plant siting process is illustrated by figure 3. The tasks of each organization are briefly summarized in the following paragraphs.

The Division of Environmental Planning conducts environmental studies to determine the potential environmental impacts that might occur from site development. The studies include assessments of aquatic biota, air and water quality, and radiological hygiene.

The Division of Water Management conducts a wide range of studies which include geologic, geophysical, hydrologic, hydrodynamic, and thermodynamic analyses of the site areas, in addition to archaeological investigations.

The Office of Engineering Design and Construction conducts and coordinates engineering studies and design analyses to assess the engineering feasibility of potential thermal power plant sites. It develops preliminary project layouts and estimates of development costs.

The Division of Forestry, Fisheries, and Wildlife Development conducts necessary site-related ecological investigations and assessments. It provides technical assistance required for impact assessments on forest, fish, wildlife, and related natural and recreation resources. It describes the location and nature of historical, scenic, cultural, or natural resources.

The Division of Navigation Development and Regional Studies coordinates the development of data by interested offices and divisions required for an assessment of the land use, socioeconomic, and demographic characteristics of sites.

The Office of Agricultural and Chemical Development conducts assessments to determine the agricultural potentials at each site. It interviews farmers, and provides the technical expertise required to determine the cropping systems, yields, and overall productivity of an area. It provides information concerning the agricultural value of potential sites and describes potential agricultural impacts.

Other Offices and Divisions also assist in the review of possible sites, as appropriate, and provide input concerning the site's overall suitability.

The assessments and various studies that are conducted by the TVA divisions are usually of a technical nature and are geared to each division's areas of expertise. The findings, however, are integrated so that an overall weighing and balancing of the pertinent characteristics at each power plant site, including the engineering requirements, environmental features, and socioeconomic factors, etc., can be made.

The Office of Power (POWER) coordinates and directs all activities regarding power plant siting. POWER, in conjunction with the coordinated input received from the other supporting divisions prepares the recommendations for the addition of power plant sites to TVA's power plant site inventory and for the preferred locations of future project sites.

State Input is Important - An important source of information relating to potential power plant sites is the input generated by various state and local agencies and organizations.

Ideally, this state agency/TVA interface should occur at early stages in the power plant siting process and thus can be mutually beneficial in several ways. For instance, it provides state agencies with the opportunity to keep abreast of TVA's power plant siting activities and to articulate early in the process state interest and concerns; state input can augment TVA's internal investigations of potentially suitable sites by adding to the information base; cooperative studies and reviews can facilitate the overall planning process in keeping with each agency's responsibilities to the public.

THE INVESTIGATIVE PROCESSES

The two siting processes previously discussed (inventory and project siting) are functionally broken down into four phases of investigative study (figure 4). Each phase is designed to progressively screen areas in order to identify potentially suitable power plant sites. Although the site screening categories remain basically the same, the criteria used for the site evaluations becomes increasingly specific and demanding with each phase of investigation.

In general, the first three phases of the siting process are geared to the development of a data base and the performance of various assessments necessary to determine site suitability and are the basic phases associated with obtaining inventory sites. The fourth phase places emphasis on either inventory management or pre-project planning.

Working Through the Site-Screening Process

Phase I - The phase I site-screening process is initiated with the selection of a general region of interest within which there is the likelihood of identifying potentially suitable sites. The studies initiated are designed to identify a specific area of interest which exhibits a desirable combination of resource characteristics for power plant siting. Characteristically, areas of interest exhibit an adequate supply of water, relatively level terrain, stable seismicity, and compatible land uses, etc.

Within the areas of interest, potential site areas (figure 5) appearing to exhibit more suitable characteristics for power plant development are identified. Screening criteria for potential site area identification generally include the following:

a. Engineering characteristics - foundation conditions, site configuration, other physical features.

b. Transportation routes - accessibility by rail, barge, and highway.

c. Hydrologic conditions - water availability for plant operation.

d. Meterological conditions - wind speeds and directions, temperatures, etc.

e. Environmental resources - terrestrial and aquatic ecology.

f. Recreation, scenic, and historical resources.

g. Land use compatibilities - existing and projected land uses.

Interdisciplinary reviews of the sites identified are conducted with those sites considered to be the most likely candidates, based on the preliminary assessments, moving to a phase II analysis.

Phase II - In phase II, the potential site areas identified are studied in greater detail to further assess their suitability as power plant sites. The studies performed are directed toward confirmation of information gathered in phase I and specific review of explicitly identified potential site areas. Coordination with state agencies is typically initiated during this phase. The sites that appear to be the more favorable after phase II assessments are considered candidate sites (figure 6) and move into phase III studies.

Phase III - During phase III investigations candidate sites are evaluated to ascertain which locations appear to offer the greatest potential for power plant siting. The evaluation is based on a balanced approach of considering engineering, environmental, economic, social, and cultural features. Phase III investigations require access to the site area in order to gain specific information for site assessments. Access privileges to the site area are obtained by TVA through an easement or right of entry grant from property owners. Once these rights have been obtained, specific onsite studies and analyses are initiated. These studies are designed to investigate and define in some detail the suitability of each site area for power plant siting. The nature of the onsite studies vary depending on the type of capacity being considered. Typically, the studies include, but are not necessarily limited to, the following:

a. Detailed engineering studies including core drillings, geophysical testing, soil sampling, etc.

b. Alternative access considerations.

c. Flooding, streamflow, and water quality studies.

d. Atmospheric data collection.

e. Terrestrial and aquatic ecology resource assessments.

f. Recreational, scenic, historical, and archaeological surveys.

g. Land use surveys and other factors pertinent to the construction and operation of a potential power facility.

With the completion of phase III studies, sites believed to be favorable for site development may be acquired. Just before or immediately following acquisition, a site moves into the fourth phase of investigation.

Phase IV - The phase IV investigations are divided into two associated aspects--inventory site management and pre-project planning.

In the inventory site management aspect of phase IV, studies are conducted to gather specific information required for licensing and regulatory procedures, or to support early site review and approval. Inventory sites are also monitored for any changes on or near the site that could possibly affect future site suitability or require special assessments.

The pre-project planning aspect of phase IV includes the planning and assessment activity required for a specific project. This could involve the evaluation of alternative inventory sites or, in some circumstances, the consideration of non-inventory sites which have been previously identified and investigated.

TVA/STATE COORDINATION

There are several areas in which state input could be effective, and we would like to explore any avenues that would improve the effectiveness and efficiency of the coordination process. However, based on past discussions and practices, and review of the investigative process, we believe that the most effective time for state review and input is when a potential site area is identified. At that point, which is phase II of the process, specific site areas can be identified along with a description of the screening criteria utilized in their identification. At this point information can be distributed for review and comment to all agencies involved in the review of power plant siting issues. We believe, however, that it might be beneficial to develop more fully some informal lines of communication in the form of informal meetings between state and TVA staffs or other means believed to be mutually beneficial to facilitate this review.

The avenues of approach are potentially numerous and open to be explored. Our interest and concern is to develop the means of effectively soliciting and incorporating the comments and issues identified through the site investigation and review process and work toward any early resolution of potential conflicts that may be of significance. As the study process develops and more specific information is gathered, followup reviews and discussions concerning status of investigations of future project planning, etc., may prove to be beneficial.

SUMMARY

TVA, in its review of potential locations for future power facilities, utilizes information from many varied sources, including Federal, state, and local agencies. We anticipate that the need for these inputs will continue in the future and will probably expand beyond the present scope. To facilitate the development of a broader, more workable interface with appropriate state and local agencies, we believe a basic understanding of TVA's site selection process is not only desirable but essential. In an effort to promote this understanding, and as a basis for discussions of the process and improved TVA/state coordination possibilities, we have prepared this short informational summary which describes the TVA site study and selection program.

TVA's 4-phased siting process is designed to encourage early input of information and identification of significant issues. The emphasis is on early because the more complete and effective the coordination in early phases of the investigations, the more effective and efficient the entire program. Therefore, it is essential that early-on coordination and cooperation with state agencies and other organizations in the site investigation process be initiated and maintained.

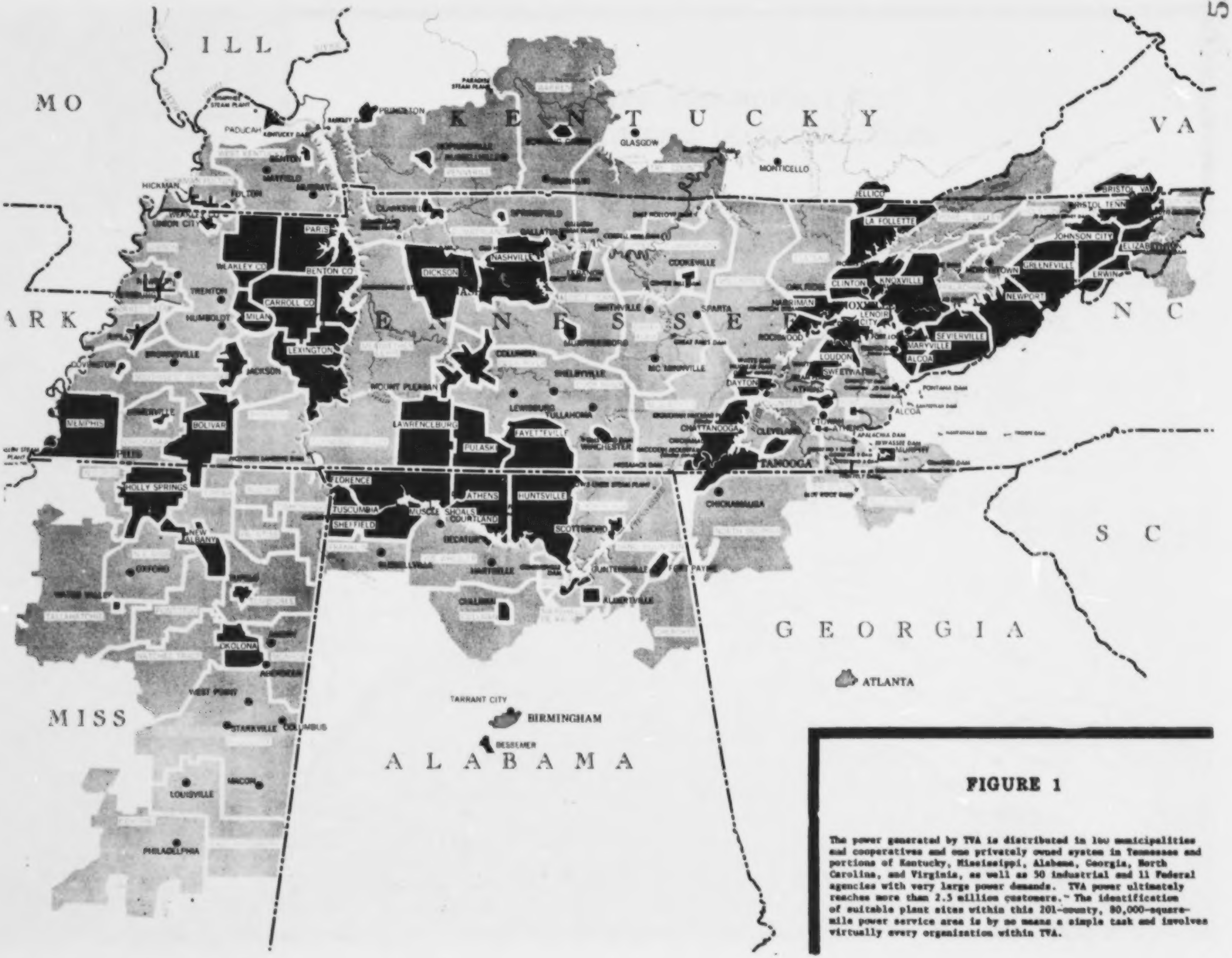

MO
ILL
KENTUCKY
VA
ARK
TENNESSEE
NC
SC
MISS
ALABAMA
GEORGIA
PADUCAH
KENTUCKY DAM
PRINCETON
GLASGOW
MONTICELLO
HICKMAN
FULTON
MAYFIELD
MURRAY
UNION CITY
PARIS
BENTON CO
WEAKLEY CO
CARROLL CO
MILAN
TRENTON
HUMBOLDT
LEXINGTON
JACKSON
CLARKSVILLE
SPRINGFIELD
GALLATIN
DICKSON
NASHVILLE
COOKEVILLE
SMITHVILLE
SPARTA
MURFREESBORO
MC MINNVILLE
COLUMBIA
SHELBYVILLE
MOUNT PLEASANT
LEWISBURG
TULLAHOMA
LAWRENCEBURG
PULASKI
FAYETTEVILLE
WINCHESTER
COVINGTON
BROWNSVILLE
SOMERVILLE
BOLIVAR
MEMPHIS
HOLLY SPRINGS
NEW ALBANY
OXFORD
OKOLONA
ABERDEEN
WEST POINT
STARKVILLE
COLUMBUS
LOUISVILLE
MACON
PHILADELPHIA
FLORENCE
TUSCUMBIA
SHEFFIELD
MUSCLE SHOALS
COURTLAND
ATHENS
HUNTSVILLE
DECATUR
HARTSELLE
SCOTTSBORO
GUNTERSVILLE
FORT PAYNE
ALBERTVILLE
CULLMAN
TARRANT CITY
BIRMINGHAM
BESSEMER
CHICKAMAUGA
CHATTANOOGA
CLEVELAND
DAYTON
ROCKWOOD
HARRIMAN
OAK RIDGE
CLINTON
LENOIR CITY
KNOXVILLE
LOUDON
SWEETWATER
ATHENS
ETOWAH
MARYVILLE
ALCOA
SEVIERVILLE
NEWPORT
JELLICO
LA FOLLETTE
MORRISTOWN
GREENEVILLE
JOHNSON CITY
ELIZABETHTON
ERWIN
BRISTOL VA
BRISTOL TENN
ATLANTA

FIGURE 1

The power generated by TVA is distributed in 160 municipalities and cooperatives and one privately owned system in Tennessee and portions of Kentucky, Mississippi, Alabama, Georgia, North Carolina, and Virginia, as well as 50 industrial and 11 Federal agencies with very large power demands. TVA power ultimately reaches more than 2.5 million customers. The identification of suitable plant sites within this 201-county, 80,000-square-mile power service area is by no means a simple task and involves virtually every organization within TVA.

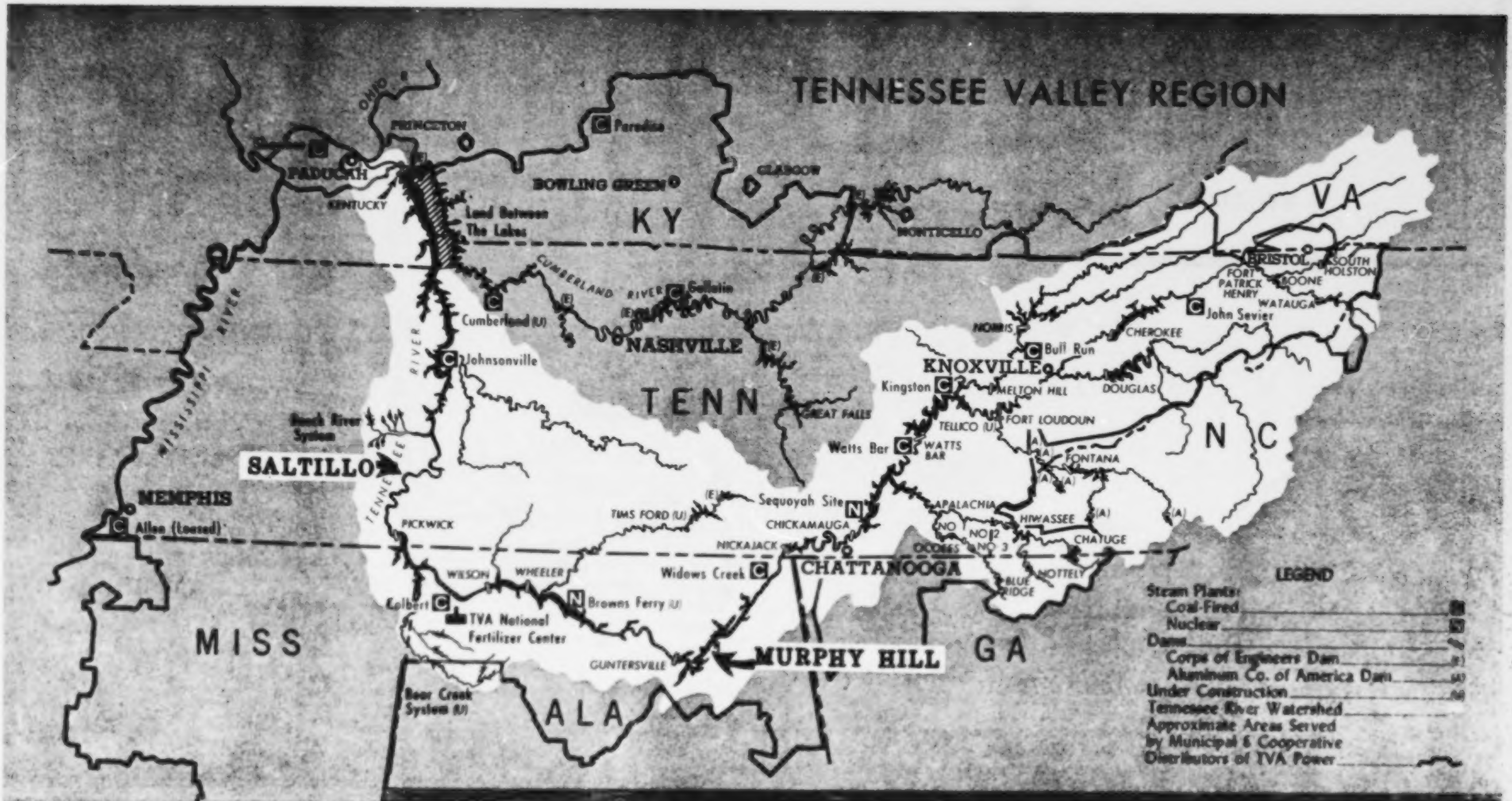
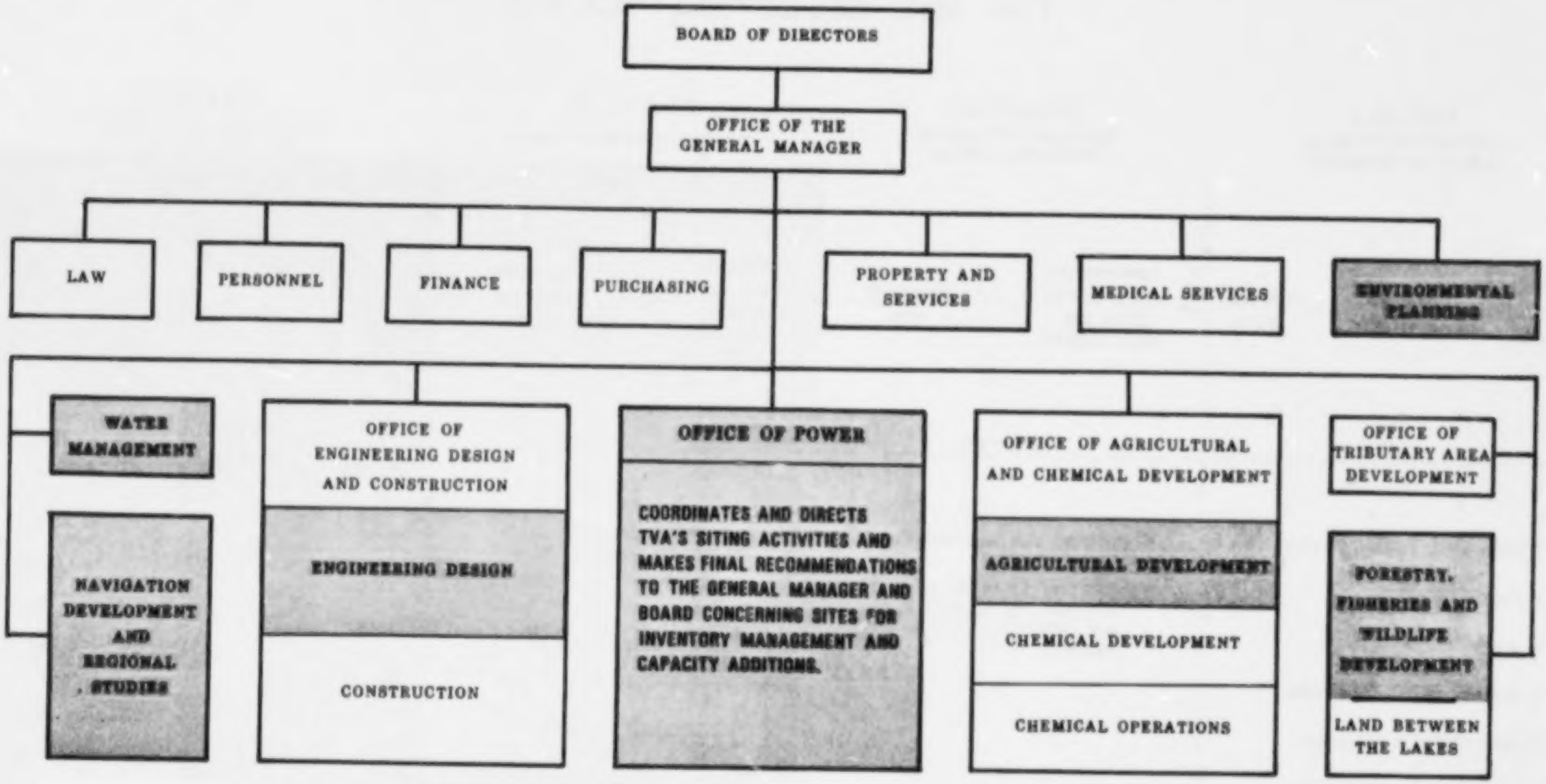

TENNESSEE VALLEY REGION
OHIO
PRINCETON
Paradise
PADUCAH
KENTUCKY
Land Between The Lakes
BOWLING GREEN
GLASGOW
MONTICELLO
KY
VA
BRISTOL
SOUTH HOLSTON
FORT PATRICK HENRY
BOONE
WATAUGA
John Sevier
CHEROKEE
CUMBERLAND RIVER
Gallatin
Cumberland (U)
Johnsonville
NASHVILLE
TENN
NORRIS
Bull Run
KNOXVILLE
Kingston
MELTON HILL
DOUGLAS
FORT LOUDOUN
TELLICO (U)
GREAT FALLS
Watts Bar
WATTS BAR
FONTANA
N C
MISSISSIPPI RIVER
RIVER
Beech River System
SALTILLO
TENNESSEE
MEMPHIS
Allen (Leased)
PICKWICK
TIMS FORD (U)
Sequoyah Site
CHICKAMAUGA
APALACHIA
NICKAJACK
OCOEE NO 1
NO 2
NO 3
HIWASSEE
CHATUGE
NOTTELY
BLUE RIDGE
Widows Creek
CHATTANOOGA
WILSON
WHEELER
Colbert
TVA National Fertilizer Center
Browns Ferry (U)
GUNTERSVILLE
MURPHY HILL
MISS
GA
ALA
Bear Creek System (U)
LEGEND
Steam Plants:
Coal-Fired
Nuclear
Dams
Corps of Engineers Dam
Aluminum Co. of America Dam
Under Construction
Tennessee River Watershed
Approximate Areas Served by Municipal & Cooperative Distributors of TVA Power

FIGURE 2

TVA'S CURRENT INVENTORY SITES - SALTILLO AND MURPHY HILL

ORGANIZATION OF THE TENNESSEE VALLEY AUTHORITY


BOARD OF DIRECTORS
OFFICE OF THE GENERAL MANAGER
LAW
PERSONNEL
FINANCE
PURCHASING
PROPERTY AND SERVICES
MEDICAL SERVICES
ENVIRONMENTAL PLANNING
WATER MANAGEMENT
NAVIGATION DEVELOPMENT AND REGIONAL STUDIES
OFFICE OF ENGINEERING DESIGN AND CONSTRUCTION
ENGINEERING DESIGN
CONSTRUCTION
OFFICE OF POWER
COORDINATES AND DIRECTS TVA'S SITING ACTIVITIES AND MAKES FINAL RECOMMENDATIONS TO THE GENERAL MANAGER AND BOARD CONCERNING SITES FOR INVENTORY MANAGEMENT AND CAPACITY ADDITIONS.
OFFICE OF AGRICULTURAL AND CHEMICAL DEVELOPMENT
AGRICULTURAL DEVELOPMENT
CHEMICAL DEVELOPMENT
CHEMICAL OPERATIONS
OFFICE OF TRIBUTARY AREA DEVELOPMENT
FORESTRY, FISHERIES AND WILDLIFE DEVELOPMENT
LAND BETWEEN THE LAKES

NOTE: TECHNICAL INFORMATION IS PROVIDED BY THE VARIOUS TVA ORGANIZATIONS SHADED ABOVE. HOWEVER, ALL OTHER DIVISIONS HAVE THE OPPORTUNITY TO COMMENT ON SITE-SELECTION ACTIVITIES AT VARIOUS STAGES IN THE PROCESS.

FIGURE 3

TVA SITE-SELECTION PROCESS

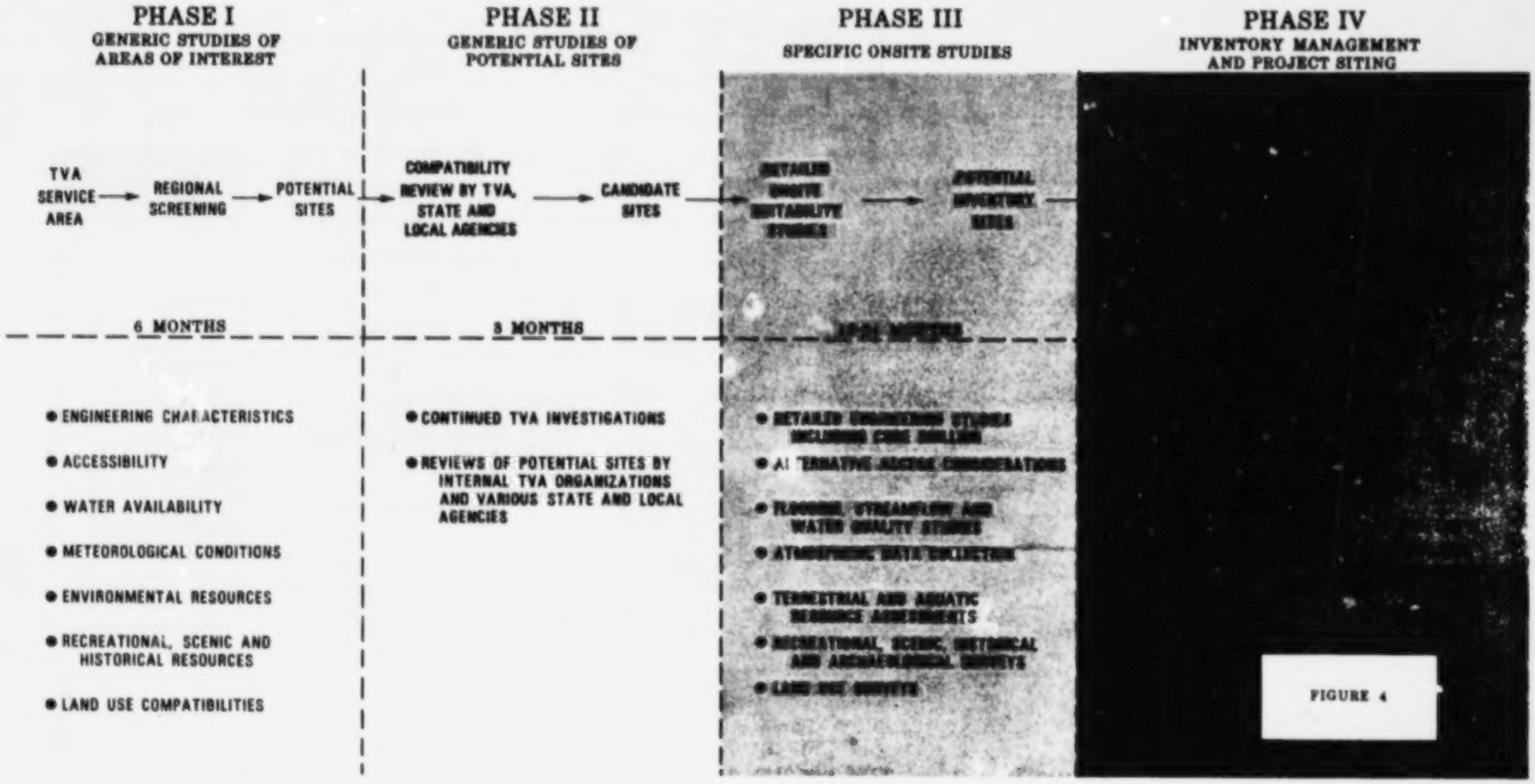
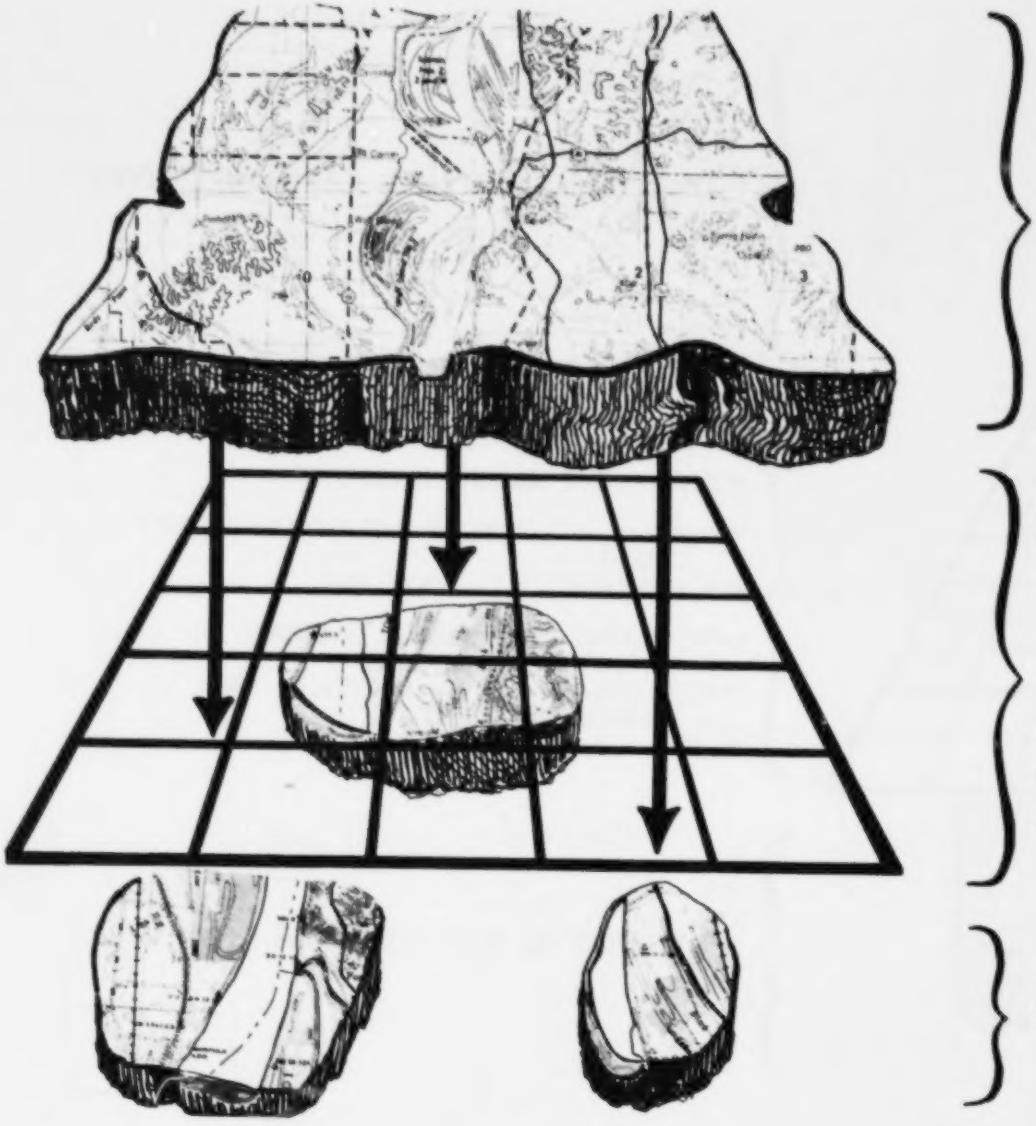

PHASE I
GENERIC STUDIES OF AREAS OF INTEREST
PHASE II
GENERIC STUDIES OF POTENTIAL SITES
PHASE III
SPECIFIC ONSITE STUDIES
PHASE IV
INVENTORY MANAGEMENT AND PROJECT SITING
TVA SERVICE AREA
REGIONAL SCREENING
POTENTIAL SITES
COMPATIBILITY REVIEW BY TVA, STATE AND LOCAL AGENCIES
CANDIDATE SITES
DETAILED ONSITE SUITABILITY STUDIES
POTENTIAL INVENTORY SITES
6 MONTHS
8 MONTHS
[illegible] MONTHS
● ENGINEERING CHARACTERISTICS
● ACCESSIBILITY
● WATER AVAILABILITY
● METEOROLOGICAL CONDITIONS
● ENVIRONMENTAL RESOURCES
● RECREATIONAL, SCENIC AND HISTORICAL RESOURCES
● LAND USE COMPATIBILITIES
● CONTINUED TVA INVESTIGATIONS
● REVIEWS OF POTENTIAL SITES BY INTERNAL TVA ORGANIZATIONS AND VARIOUS STATE AND LOCAL AGENCIES
● DETAILED ENGINEERING STUDIES INCLUDING CORE DRILLING
● ALTERNATIVE ACCESS CONSIDERATIONS
● FLOODING, STREAMFLOW AND WATER QUALITY STUDIES
● ATMOSPHERIC DATA COLLECTION
● TERRESTRIAL AND AQUATIC RESOURCE ASSESSMENTS
● RECREATIONAL, SCENIC, HISTORICAL AND ARCHAEOLOGICAL SURVEYS
● LAND USE SURVEYS

FIGURE 4

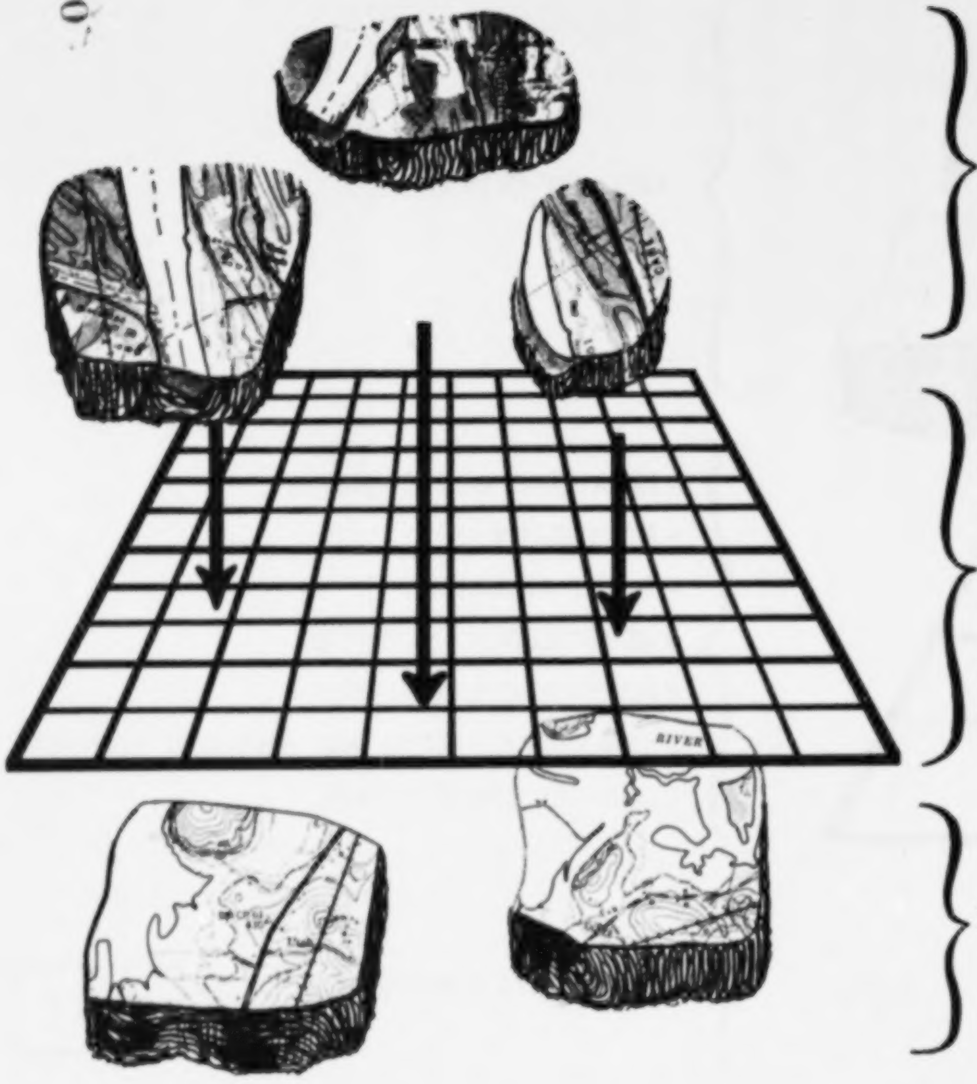


AREA OF INTEREST

- ENGINEERING CHARACTERISTICS
- ACCESSIBILITY
- WATER AVAILABILITY
- METEOROLOGICAL CONDITIONS
- ENVIRONMENTAL RESOURCES
- RECREATIONAL, SCENIC AND HISTORICAL RESOURCES
- LAND USE COMPATIBILITIES

POTENTIALLY SUITABLE SITES

FIGURE 5



POTENTIALLY SUITABLE CANDIDATE SITES

- DETAILED ENGINEERING STUDIES INCLUDING CORE DRILLING
- ALTERNATIVE ACCESS CONSIDERATIONS
- FLOODING, STREAMFLOW AND WATER QUALITY STUDIES
- ATMOSPHERIC DATA COLLECTION
- TERRESTRIAL AND AQUATIC RESOURCE ASSESSMENTS
- RECREATIONAL, SCENIC, HISTORICAL AND ARCHAEOLOGICAL SURVEYS
- LAND USE SURVEYS

INVENTORY OR PROJECT SITES

FIGURE 6

ENVIRONMENTAL TECHNICAL SPECIFICATIONS (ETS)

RONALD L. BALLARD, NRC

It is reasonable to assume that most of us attending this workshop have been directly affected in one way or another by the strong environmental movement that characterized the first half of this decade. The volume of environmental legislation that has been enacted during this period has impacted not only private industry, but also has had a significant effect on Federal agencies charged with the responsibility of implementing these statutes. Not only did the statutes place demands on the technical capabilities of the Federal agencies; a number of them created situations of overlapping regulatory responsibilities which resulted in duplicative and, at times, conflicting regulations.

A case in point, which is relevant to this discussion, is the passage in 1969 of the National Environmental Policy Act (NEPA) and the subsequent passage in 1972 of the Federal Water Pollution Control Act Amendments (FWPCA). Both of these statutes had similar objectives, but used different means to accomplish them. NEPA is basically a policy act, incorporating the principles of balancing environmental costs and benefits of proposed activities and consideration of alternatives to assure that, on balance, a reasonable decision is reached. The FWPCA has a specific objective of minimizing the discharge of pollutants to receiving waters and a long-term goal of eliminating pollutant discharges. Thus, we have a situation where two statutes are concerned with environmental protection and require regulatory attention; yet they differ in methods for achieving their desired goals.

NRC's approach under NEPA for factoring environmental considerations into our licensing process has been to identify areas of potential concern by way of environmental impact assessments and to impose license conditions in the form of environmental technical specifications to assure satisfactory performance. This was a convenient extension of the procedures that were already developed to control radiological releases. In view of our limited understanding of the non-radiological interactions of power plants with biological systems, the early license conditions were designed not only to regulate pollutant discharges but to verify that effects predicted in the environmental statements were in fact valid.

In a subsequent development, the Environmental Protection Agency has established a national system of permits to regulate the discharge of water-borne pollutants. In view of the similar objectives of the two agencies, NRC has worked closely with EPA in the development of procedures that encourage close interagency coordination of environmental reviews, and thus provide a means for minimizing duplicative enforcement activities.

A good deal has been learned regarding the environmental problems associated with power plant operation in the years since NEPA was enacted into law. The environmental monitoring programs at operating plants have provided useful information that permits us to reconsider our procedures and revise them to reflect the knowledge that has been gained. We have found, for example, that thermal pollution is a more manageable problem than first thought, and that mathematical modeling of heated water discharges has advanced to the state where more confidence can be placed on predicted environmental effects. We are more confident that power plant effects on primary producers, such as phytoplankton, are of less concern than originally feared. The new information, in conjunction with cooperative procedures established with EPA, provides us with a basis for reviewing and modifying our methods for regulating power plants.

Our analysis of the ETS programs indicates that non-radiological areas suitable for revision can be placed into three general categories. The first category deals with the need for standardization. There are about 64 licensed nuclear plants in operation, most with ETS which are essentially customized to specific plant-site conditions. These ETS include constraints on plant operation in the form of limiting conditions of operation, detailed environmental monitoring programs, and administrative procedures which are unique to each facility. The variations in requirements from plant to plant result in differing interpretations and occasionally introduce confusion in the management and enforcement of the programs. We are, therefore, attempting to apply the experience gained from the ongoing ETS programs to standardize the format and content of the ETS for future power plants. An in-house task group has been organized and is drafting standardized ETS for two power plants that are currently under review. These plants were selected primarily on the basis of widely differing design and operating characteristics. We are working with the applicant's staff on the final phases of one case and the results are promising.

The second category of changes is related to the first, and can be classified as procedural or administrative modifications. Because of the detailed nature of the ETS, situations frequently arise in which changes are warranted. However, ETS changes also require a license amendment; a formal legal process which may not always be warranted if only modest changes are involved. This problem should, of course, be alleviated somewhat by the standardization process mentioned earlier. A more positive solution is to find ways to reduce the need for license amendments and to find improved ways to make the changes that are needed. This is being accomplished by transferring a great deal of monitoring detail from the ETS to a separate document and by authorizing the licensee to make certain changes to the monitoring programs without prior NRC approval. A precedent for this process is already contained in our regulations regarding quality assurance programs, and the concept should also be applicable to environmental monitoring programs.

The third general area in need of attention involves duplication of regulatory enforcement. I mentioned earlier that a good deal of overlap existed between the environmental technical specifications issued by NRC and the discharge permits issued by the EPA or permitting states. Procedures for coordinating our joint review functions with EPA have been established by means of a Memorandum of Understanding, thus alleviating the problem of conflicting regulations. We plan to carry this concept a step further in our ETS program by avoiding the inclusion of pollutant discharge limitations which are also included in an applicant's discharge permit.

Perhaps a brief comparison of the new ETS format with the existing format will assist in illustrating the overall effects of the changes. First, a glossary of terms which frequently appear in ETS is currently being developed. Although this may appear at first to be a trivial matter, different interpretation of technical terms frequently results in enforcement problems. Occasions will almost certainly arise when special definitions will be required for specific sites and these occasions will be accommodated. However, every attempt will be made to minimize the need for special definitions.

With regard to "Limiting Conditions of Operation," we expect to delete from our ETS numerical limits for any parameter identified in the Environmental Statement which is also regulated by means of a Section 402 NPDES permit. However, in view of the fact that the parameter was identified in NRC's review as an issue of concern under NEPA, a monitoring requirement will generally be included in the ETS. We expect that the NRC monitoring requirement will be consistent with the permit requirement, and will result in no additional burden to the licensee. Furthermore, if a water quality parameter of NRC concern is not controlled by an applicant's Section 402 NPDES permit, NRC will retain the option of including a condition for that parameter in the license.

As I mentioned earlier, it has often been necessary to amend an operating license to take into account minor changes to environmental monitoring programs. Future ETS will contain only critical parameters needed to identify and establish a program, and the implementation details will be contained in a separate document. While requests for changes of ETS must be processed as they have in the past, separation of the technical details from the ETS reduces the need for license amendments and permits greater flexibility in the management of the monitoring programs.

Perhaps the greatest change from past practice is contained in the administrative section of the ETS format. The scope of the separate procedures document is described in this section, as well as a description of associated modifications and reporting requirements. Provision is made in this section for initial approval by NRC and for subsequent management of the programs; including modifications, by the licensee. Also included are references to the requirements of PL 92-500, including certifications, NPDES permits, and requirements for notifying NRC of any changes to such permits.

A description of just how this process is being applied to an ongoing case review will serve to illustrate the points I have made. The original draft ETS for the facility contained five limiting conditions of operation, dealing with temperature and chemical discharge limits. Close coordination with EPA and the State in their development of the applicant's NPDES permit resulted in a discharge permit which satisfactorily treated the issues raised in the NRC's environmental impact statement. This successful coordination permits the current draft ETS to contain no numerical constraints for water quality parameters. There are, however, reporting requirements for these parameters, which are deemed necessary to satisfy our responsibilities under NEPA. In this particular case, the reporting requirements place no different burden on the applicant than the permit already requires, thus helping to resolve the problem of conflicting regulations. It should be pointed out, though, that a situation could arise where a discharge permit may not regulate a parameter that has been identified in the NRC environmental assessment as of potential concern. Our present stance is that a numerical water quality constraint can be included as an NRC license condition if such a constraint is not identified in the discharge permit.

To continue with my illustration, application of the standardized format has resulted in a significant reduction of technical detail. The monitoring program descriptions are abbreviated and incorporate only the requirements deemed critical to assure satisfactory resolution of the issue. The applicant has submitted, instead, a detailed procedures document which is currently under review by NRC staff. Subsequent to NRC staff approval of the procedures, the applicant will be responsible for managing the programs and will be authorized to modify the programs, provided that the original intent of the monitoring requirement is not compromised.

There are two general conditions in the administrative section of the ETS which serve to place constraints on licensee changes to monitoring programs. The first condition identifies four monitoring parameters which are of such importance that changes must be reported to the NRC within a specified time after their implementation. These parameters are sampling location, frequency, gear, and replication. The second condition focuses on the need for maintaining consistency with previously approved procedures. This condition requires that any program modifications be supported by appropriate comparative sampling studies which allow direct comparisons with previously collected data. The intent of these conditions is to assure that data generated by the monitoring programs meet a statistically valid level of quality.

In order for the procedures I have described to work efficiently, we need the cooperation of the nuclear utility industry. A situation that frequently arises is the reporting of operating parameters to the NRC with numerical values which differ from those submitted in conjunction with a discharge permit application. We recognize, of course, that design modifications are sometimes necessary and desirable after submittal of initial plans. However, in order for the NRC to adopt a discharge permit limit or monitoring program, the numerical basis must be consistent with that evaluated in its environmental statement. If the permit value differs, it is necessary for NRC to obtain new input from the applicant and reevaluate impacts. Thus, close attention on the part of the industry to keeping all relevant agencies informed of modifications affecting the environment will maximize the benefits to be gained by the new process.

The steps that have been described here are believed to be responsive to needs for improving the efficiency of the licensing process and for reducing duplication in the enforcement of regulations. We are only in the formative stages of accommodating the procedures to actual operating conditions, and some revisions may still be necessary. However, it should be kept in mind that the responsibilities placed on Federal agencies under NEPA are different than those set forth in the Water Quality Act. While some duplication is probably unavoidable as the statutes are now written, a cooperative effort on the part of the nuclear industry will assist us in developing more efficient procedures which are also responsive to the mandates of both Acts.

STANDARDIZED ENVIRONMENTAL TECHNICAL SPECIFICATIONS
OBJECTIVES

1. Establish Standardized Terminology and Definitions.

2. Procedural Changes

    a. Remove Monitoring Details from ETS and Incorporate into Separate Procedures Document to be Managed by the Licensee.

    b. Provide for Licensee to Make Changes to Programs in Procedures Document Without Prior NRC Approval (With Prescribed Constraints)

3. Avoid Duplicative Enforcement of Effluent Limitations by Deleting NEPA LCO'S Where Provided for in NPDES Permit.

ENVIRONMENTAL TECHNICAL SPECIFICATIONS
FORMAT CHANGES

ETS Sections	Existing Requirements	New Requirements
1. Definitions	Site Specific Terms Developed on Individual Basis.	Standard Definitions for all Plants (Glossary) Except for Certain Site Specific Items
2. Limiting Conditions of Operation (LCO's).	Specific Limits on Effluents Identified in EIS.	Delete Numerical Limits of EIS if also in NPDES Permit.
3. Environmental Monitoring	Detailed Monitoring Programs.	Delete Monitoring Details. Adopt Standardized Program Descriptions With Critical Parameters Retained in ETS.
4. Special Studies	Detailed Requirements for Studies of Limited Scope.	Delete Monitoring Details. Adopt Standardized Program Descriptions Where Feasible.

ENVIRONMENTAL TECHNICAL SPECIFICATIONS
FORMAT CHANGES
(CONTINUED)

ETS Sections	Existing Requirements	New Requirements
5. Administrative A. Procedures	General Provisions	Licensee Manages Approved Programs, Revises Them W/O Prior NRC Approval Within Established Guidelines.
B. Reporting	Varied and Extensive	Standardized Report Requirements, Significant Reduction in Prompt Reports.
C. Permits and Certifications	Not Treated	Provides for Changes in Plant Operation W/O Prior NRC Approval Where Required by Law.

IMPLEMENTING THE SECOND MEMORANDUM OF UNDERSTANDING BETWEEN NRC-EPA

GEORGE KNIGHTON, NRC

Introduction

For the purpose of effectively implementing NEPA and the FWPCA consistent with both acts, the public interest, the NRC and EPA entered into the Second Memorandum of Understanding. This agreement clarifies the respective roles of NRC and EPA in the decision-making process concerning the licensing of nuclear power stations and other facilities requiring NRC license or permit. The agreement was effective on January 30, 1976, and serves as the legal basis for NRC decision-making concerning licensing matters covered by NEPA and Section 511 of the FWPCA.

Approximately two years have passed since the agreement went into effect, and thus this EPA workshop is an appropriate time to reflect on our experiences under the agreement to date.

Implementation

Since the "Memorandum of Understanding" recognizes NRC as the "Lead Agency" in preparing environmental statements for nuclear power plants and certain other activities, it will obviate the need for EPA to prepare separate environmental statements for such facilities. EPA has thus agreed to exercise its best efforts to issue complete Section 402 discharge permits as far as possible in advance of the planned date of authorization by NRC of any commencement of construction. As "Lead Agency" the NRC Environmental Project Manager takes the lead in communicating to the applicant those minimum NRC and EPA requirements for information to facilitate their respective environmental evaluations. Requests for additional information, as needed in specific situations may be directed to the applicant by EPA, with coordination with NRC to the maximum extent possible.

NRC Environmental Project Managers or EPA Project Officers are required to take the following actions on a case by case basis:

1. Notify the sister agency project officer and the State environmental authorities, when they become aware of plans of an applicant to construct a nuclear power plant or other facility covered by the "Memorandum." This is important to work with applicant to develop an acceptable program to monitor water quality aspects required for detailed assessments of aquatic biota and intake structure "best technology available."
2. EPA designates Regional Project Officer. Authority to coordinate EPA review in a timely fashion without impacting environmental review schedules.

3. EPA shall inform applicant of EPA data requirements on water quality and biota. On 316(A) and (B) exemption we anticipate EPA will invoke the need for 18-24 months requirement for data prior to environmental report submittal on a case by case basis in order to accommodate those plants currently in the planning stage or under review by NRC.

4. NRC, EPM in consultation with EPA will notify applicant of the advisability of applying for a Section 401 water quality certification from the State as soon as he is aware of applicant plans.

5. NRC, EPM requested applicant to submit copies of ER to EPA Project Officer and State water quality permit agency at the time he tenders the ER to NRC.

6. NRC, EPM takes lead in communications with applicant from acceptance review stage award.

    A) EPA can request information direct prior coordination to avoid duplication.

    B) Copies of correspondence to sister agencies and permit state.

7. NRC, EPM will inform and afford opportunity to take part in site visits, technical conferences and other meetings having a bearing on water quality or related issues. Also afford opportunity to observe at meetings with applicants and parties to NRC proceedings where environmental issues related to other areas of EPA jurisdiction are discussed. Participation should be pre-arranged with NRC, EPM.

8. NRC, EPM and EPA Project Officer identify major areas of concern with regard to water quality. Subsequently, they should keep each other informed of any differences in position and of any new information which becomes available. If any issues remain unresolved both positions will be stated in the DES.

9. NRC, EPM shall apprise the EPA Project Officer of the anticipated schedule and provide opportunity to explore schedule flexibilities before NRC moves to final schedule approval. EPA is notified of the final schedule. Scope of EPA input will be worked out on a case by case basis between NRC, EPM and EPA Project Officer.

10. During DES comment period, EPA will review and comment pursuant to Section 309 of Clean Air Act on the DES prepared by the NRC staff.

11. EPA's 309 comments will be accurately reflected in the FES together with NRC staff responses where appropriate.

12. NRC, EPM supplies copies of all comments on the DES to EPA as soon as they are received. EPA participates with NRC in responding to those comments upon water quality matters and other areas of EPA jurisdiction and related expertise.

Schedule:

The typical schedule for the NRC/EPA review under the Second Memorandum would be as follows:

1) 18-24 months prior to docket NRC/EPA/State meeting.
2) EPA/NRC utility interface - applicant advised of data needs.
3) 1 month before docket - Acceptance Review.
4) 3 1/2 months after docket - DES issued - Draft NPDES.
5) 1 1/2 months - comment period & DNPDES & Notice of Hearing.
6) 1 month after comments received and DNPDES issued - EPA Hearing.
7) 8 months after docket - FES issued.
8) 9 months after docket - NRC Environmental Hearing.
9) Notice of Final NPDES permit.
10) 20 days for opportunity to request EPA Adjudicatory Hearing.
11) 30 day waiting period for EPA Adjudicatory Hearing Decision.
12) EPA Adjudicatory Hearing.
13) Final NPDES permit.
14) 13 1/2 months NRC - Limited Work Authorization.
15) NRC Construction Permit.

Experience:

Since the Second Memorandum went into effect January 30, 1976, NRC and EPA have implemented it in the following cases:

o/t Omaha Public Power District - Ft. Calhoun 2 (p/s)
c/t Tennessee Valley Authority - Phipps Bend 1 & 2
c/t Public Service Company of Oklahoma - Black Fox 1 & 2
c/t Tennessee Valley Authority - Yellow Creek 1 & 2
o/t New England Power Company - New England 1 & 2
c/t Gulf States Utilities - Blue Hills 1 & 2

Othcr cases where cooperation has been instigated or carried out to varying degrees (some are Permittee State cases)

New Hampshire Public Service Company - Seabrook
Public Service of Indiana - Marble Hill
Houston Lighting and Power - Allens Creek (React)
Carolina Power and Light Company - Brunswick
Consolidated Edison - Indian Point 2
Power Authority of the State of New York - Greene County

Results

Experience to date has had a very high degree of success. Such performance has been due to the cooperative attitude of EPA/NRC and permit state agencies in recognizing that the parallel performance of the NEPA, FWPCA and even State reviews are very much to the advantage of the agencies, the public and the applicant. The coordination between agencies to date has generally extended the previous NRC schedule, however, the benefits derived for the applicant and the public - considering the sequential evaluation of environmental impacts, new information effecting previous agency decisions and potential of opposing positions by the various concerned agencies certainly appears to justify the coordination.

State MOU's

Virginia is the first State to enter into an agreement under the FWPCA with NRC. That agreement became effective on October 26, 1977. The Virginia agreement is very similar to the NRC/EPA MOU except that it applies only to Nuclear Power Plants rather than all nuclear facilities, and it provides for NRC and the Virginia State Water Control Board to explore means by which parts of NRC's environmental statements could be prepared jointly or cooperatively. Also, the wording of the Virginia agreement is much simpler than that of the Second NRC/EPA Memorandum.

Earlier this week, we received a pre-signed proposed agreement from the South Carolina Department of Health and Environmental Control that contains the essential provisions of the NRC/EPA Memorandum and covers all nuclear facilities rather than just nuclear power plants. That agreement is currently undergoing staff review by NRC and hopefully, will be concluded in the near future.

Negotiations with the New York State Board on Electric Generation Siting and the Environment and the Departments of Environmental Conservation and Public Service are well underway. As presently proposed, there will be a basic Memorandum of Understanding with the appropriate New York agencies that provides for cooperation in all matters of concurrent jurisdiction under NEPA rather than just water quality matters. This Memorandum will be supplemented by separate ancillary agreements which provide for the State to prepare portions of environmental impact statements for NRC under mutually acceptable guidelines. Currently two such agreements have been drafted and are undergoing staff review. These agreements would provide for appropriate New York agencies to prepare the water quality and need for power portions of NRC's environmental statements for nuclear power plants. It is anticipated that similar agreements in other areas such as air quality, terrestial ecology, land use, esthetics, etc. may be negotiated in the future.

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Also, New York and NRC in August completed a "Joint Working Paper for the Preparation of Environmental Reports for Generating Facilities in New York State." This document is intended for use by any New York State utility for the preparation of a single environmental report which will satisfy the environmental requirements of both the State and NRC.

Negotiations for agreements are well underway with Georgia and Michigan and are in various early stages of development with California, Colorado, Connecticut, Maryland, Oregon and Washington. It is our intent to open negotiations with additional EPA permitting States depending upon State interest and staff availability.

Even in the absence of formal agreements, considerable cooperation and coordination exists between the States and NRC. Joint NRC/State hearings which are considered on a case-by-case basis provide a good example.

In the case of Douglas Point, for example, joint environmental hearings between the State of Maryland and NRC were held in July-August, 1976 for the proposed Douglas Point Nuclear Power Plant to be located adjacent to the Potomac River about 30 miles below Washington, D. C. in Charles County, Maryland. The joint hearing involved close coordination between the State and NRC in technical review and development of the joint hearing protocol. The hearing was a success as attested to by both the NRC and State agencies in terms of function, Federal/State relations, and avoidance of duplicative effort.

Another instance is that of Greene County. In this case, both NRC and the New York State Board on Electric Generation Siting and the Environment have substantial areas of concurrent jurisdiction in the licensing of the proposed facility. On November 9, 1976, the Commission and the State of New York agreed to hold a joint hearing on matters of common interest and concurrent jurisdiction on the proposed Greene County Nuclear Power Plant. The evidentiary hearing on environmental matters began on January 4, 1977 before a joint hearing board made up of the ASLB and two hearing officials from the New York State Board of Electric Generating Siting and the Environment, with participation by the parties admitted in both proceedings.

We believe that joint hearings will bring considerable benefits both to the Federal and State licensing process, and avoid costly duplication of effort and lead to the development of better and more complete records, and consequently, to more informed decisions. Joint hearings should also enhance the opportunity for effective public participation in the decisional processes of both agencies.

The degree of difficulty in fulfilling the Memorandum varies with the type of cooling system (i.e., cooling tower, cooling lake or pond and once-through cooling and site location). The cooperation of the agencies on the Phipps Bend, Black Fox, Yellow Creek, and the use of cooling towers certainly permitted timely environmental reviews. Ft. Calhoun, Blue Hills, New England and Allens Creek take considerably more coordination as a result of once-through condenser cooling on rivers, ocean or cooling lakes requiring significantly more effort for aquatic assessment and best available technology assessment for the intake.

There has been some difficulty experienced as a result of independent consultation by the agencies involved with Department of Interior concerning rare and endangered species. Such duplication has resulted in delays due to conflicting positions by Department of Interior. Such problems can be solved by agency coordination prior to requesting Department of Interior position.

There has been difficulty on "old sources" in the NRC operating license stage environmental review or changes in NPDES conditions on operating plants. Although the Second Memorandum covers "new sources" because of EPA's responsibility to prepare an environmental statement, extending the cooperative interchange of change of status, new information coordination prior to actions taken by either agency or the appropriate state could be extremely helpful.

It should be emphasized that it is desirable for EPA to assign a single coordinating point for each case as NRC does in its assignment of an EPM. This certainly is not intended to reduce participation by additional representatives.

Conclusion:

We believe the grades earned by all participants under the Second Memorandum of Understanding should be high. This is due to the cooperative attitude of the agencies in improving the process to the benefit of the public, applicant and their respective agencies.

Appendix 1

WHERE TO FIND EIS-RELATED MATERIALS

DEPOSITORY LIBRARIES FOR GOVERNMENT DOCUMENTS:

Public and university libraries (217 in the Southeast) compose a nation-wide system that serves as storehouse for all Federal government publications, as well as many state and local documents.

GOVERNMENT PRINTING OFFICE BOOKSTORES:

Located throughout the U.S., the bookstores provide a wide selection of GPO materials for purchase, as well as ordering information for all Federal publications.

INFORMATION CENTERS AT MAJOR RESEARCH LIBRARIES

The centers provide thorough searches of the literature on a given topic, usually for a fee. One such center is the Georgia Tech Information Exhange Center.

LIBRARIES OF AGENCIES OR ORGANIZATIONS INVOLVED WITH THE PROJECT:

Although quality of the collections may vary, many agencies or organizations involved with a project may provide additional information. Most Federal agencies do have a library system, as with EPA, TVA, Corps of Engineers, U.S. Geological Survey.

UNIVERSITY OR COLLEGE LIBRARIES:

The reference librarians at large academic libraries, especially those located near the area affected by the EIS, are available to explain their library's collection. Especially good for socio-economic information.

U.S. ENVIRONMENTAL PROTECTION AGENCY REGIONAL OFFICE LIBRARIES:

The regional libraries hold depository collections of EPA reports, a substantial collection of state and local documents relating to environmental problems, especially within their regions, as well as an assemblage of supportive books and journals.

E.I.S. RELATED PUBLICATIONS AND SERVICES

CHEMICAL REGULATIONS REPORT (BNA):
Weekly review of activities affecting chemical manufacturers and users, including coverage of Federal and state laws and regulations

ENCYCLOPEDIA OF ASSOCIATIONS (Gale Research Co.):
Detailed information including location, size, staff, objectives, and telephone numbers of commercial, scientific, engineering, agricultural, governmental, legal, military, and other organizations. Includes alphabetical and key word indices.

ENERGY USERS REPORT (BNA):
Weekly report covering energy policy, technology, and supply. Includes coverage of energy laws and regulations, energy statistics, and a directory of energy-related departments and organizations.

ENVIRONMENT REPORTER (BNA):
Weekly review of pollution control and related environmental management problems, including coverage of Federal and state environmental legislation, laws, and regulations.

EPA REPORTS BIBLIOGRAPHY (NTIS):
Abstracts and indices of EPA reports. Provides ordering information for purchasing reports through NTIS.

FINDING FACTS FAST, by Alden Todd (William Morrow Co., 1972):
Text explains research methodology, library use, ideas for outside-the-library investigation to help researchers find out what they want to know immediately.

GOVERNMENT REPORTS ANNOUNCEMENTS AND INDEX (NTIS):
Biweekly summary and index of government research. Indexes cummulate annually.

KEY TO E.I.S. (Information Resources Press):
Monthly index and abstracts to E.I.S., including access by subject, Agencies involved, geographic areas affected, laws and court decisions relating to E.I.S. The Impact Statements are also available on microfiche.

OBERS PROJECTIONS (U.S. Water Resources Council):
Five volume set including historical and projected data for economic activity in the U.S. Organized by states, water resources regions, and Bureau of Economic Analysis Economic Areas. Includes one volume summary and explanation of methodology.

PROFESSIONAL PUBLICATIONS:
Several journals of professional organizations contain information relevant to E.I.S. research, such as 102 MONITOR (CEQ), JOURNAL OF AIR POLLUTION CONTROL ASSOCIATION, JOURNAL OF WATER POLLUTION CONTROL FEDERATION.

PROJECTIONS OF ECONOMIC ACTIVITY IN (STATE), SERIES E, POPULATION (Corps or Engineers):
Documents providing historical and projected demographic and economic data for each of the nine states in the Southeast. One volume summary of projections for the Southeastern states is also available.

STATE ENVIRONMENTAL LAWS AND REGULATIONS (Environmental Information Center):
Collection of laws, rules, and regulations of environmental importance for all 50 states. (Available at EPA Region IV Library in microfiche.)

COMPUTERIZED LITERATURE SEARCHES

NTISearch (NTIS):
Individual computer searches of entire NTIS Bibliographic Data file covering Federally sponsored research projects since 1964. Fees for searches begin at $100.

AIR POLLUTION TECHNOLOGICAL INFORMATION CENTER (APTIC) SEARCHES (EPA):
Literatrue searches of air pollution control articles through the EPA Library at Research Triangle Park, North Carolina. Free to EPA personnel, current contractors and grantees of EPA when endorsed by their EPA project officer, state and local governmental agencies, nonprofit environmental and citizens groups.

ABSTRACTS

ENERGY INDEX (EIC):
Annual guide to literature in energy. Includes sections covering year's events, key legislation, conferences, books, films, and statistics relating to energy.

ENVIRONMENT INDEX (EIC):
Annual index covering 21 subject catagories of environmental concern. Indexes journals, newspapers, government documents, and conferences. Includes listing of pollution control officials and a chronology of the year's events of environmental importance.

SELECTED WATER RESOURCES ABSTRACTS (Water Resources Office, Interior Dept.):
Semi-monthly publication abstracting current and earlier monographs, journals, reports, and other publications dealing with water-related aspects of the sciences, engineering, and the law. Also includes coverage of conservation, control, use and management of water.

Appendix 3

REGION IV LIBRARY
U.S. ENVIRONMENTAL PROTECTION AGENCY

Librarian: Carolyn Mitchell, MLS
Assistant Librarian: Patricia Rosencranz, MLS

The Region IV Library was established in May, 1973. Some of the material incorporated into the collection came from the pre-EPA offices of the Public Health Service and the Federal Water Pollution Control Administration.

The collection presently consists of 1500, books, 10,000 cataloged documents, 270 journal and newsletter subscriptions, and 100,000 reports on microfiche.

The subject areas of the collection are water quality, water supply, wastewater treatment, air pollution, solid waste management, noise pollution, toxic substances and hazardous materials, land use, environmental law, and Southeastern U.S. ecology.

Special collections include EPA reports, Air Pollution Technical Information Center (APTIC) reports, Environmental Impact Statements on microfiche, state environmental laws and regulations on microfiche, and Federal Women's Program materials.

The Library provides the Region IV staff with reference, circulation, interlibrary loan and current awareness services. Assistance is also provided to the general public.

IMPACT IMPRESSIONS™

What's Wrong With Environmental Impact Statements

In our efforts to refine and improve *EIS*, we have been conducting a continuing analysis of the best means of describing the contents of environmental impact statements, via abstracts and entries in our three indexes. A natural offshoot of these efforts has been a determination of where the substantive parts of statements are typically located, how they are organized in relation to one another, and how easy (or difficult) they are to abstract and index. The theory behind this offshoot activity is that the better written and organized the statement the easier it is to abstract and index it. As part of this activity, the *EIS* professional staff was asked to list problems they encountered in abstracting and indexing environmental impact statements. Following are some of the problems cited:

Titles are not adequately descriptive of projects or programs about which statements are written.

Originating agencies or organizations are unclear.

Geographical/jurisdictional locations of projects are unclear.

Information on the covers of the statements differs from (and sometimes contradicts) information on the title pages.

Incomplete (or excessively general) tables of contents.

Inconsistent and frequently incomprehensible numbering of pages.

Acronyms are not explained or are inconsistent.

Maps, tables, and figures are inadequately labeled or explained.

Poor writing, grammar, and punctuation.

Lack of objectivity, and excessive editorializing.

Illegible copy and missing pages.

Excessive jargon (or obfuscation): "front-designated seating positions," "signalization of a high-frequency intersection," etc.

Complex verbal descriptions of physical plans and structures without clarifying visual aids.

Summaries do not present a complete and balanced picture of the contents of statements.

History or background of the projects or programs is frequently omitted.

Negative impacts are not clearly and completely presented.

Comments regarding preceding draft statements frequently are treated too cursorily (if at all) in final statements.

Alternative plans considered are treated too cursorily. (This could be remedied in part via matrices of alternatives against evaluative variables.)

Self-serving use (or simple misuse) of adjectives (e.g., significant, insignificant, slight, adverse, beneficial, minimal, minor, etc.).

In our first "Impact impressions," we stated that improvement of the structure and content of environmental impact statements was beyond the scope and intent of *EIS*. It now appears that, in the course of abstracting and indexing impact statements, we can help point the way toward their improvement.

Of course, one might ask why we are bothering to abstract and index impact statements if they are so bad. The answer is that, in the abstracting and indexing process, which follows a rigid structure and sequence, we are injecting an element of organizational consistency which is frequently lacking in the statements. For the most part, the information is there, but it is hard to find. Our job is to make it more findable, and, in so doing, to make impact statements more useable.

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IMPACT IMPRESSIONS

COMMISSION ON FEDERAL PAPERWORK: Report on Environmental Impact Statements

This space in the June 1977 issue of *EIS* was given to a guest editorial dealing with ideas for improving environmental impact statements (EISs). The topics discussed included the need for greater uniformity and consistency among agencies in determining when and how impact statements should be prepared, the elimination of redundancies in impact statements, streamlining of the intra-agency review process, segmentation of environmental assessments, preceding or backing up impact statements with "families" of reports covering discreet technical areas so as to facilitate the technical review process, and development of general criteria or guidelines for state or local authorities in order to eliminate the need for detailed federal agency participation in every environmental action.

In many respects, the suggestions advanced in our guest editorial parallel in purpose and kind the recommendations advanced in the interim report of the Commission on Federal Paperwork dealing with environmental impact statements (February 1977). The report contains 14 recommendations. Backed up by detailed analyses and justifications, these recommendations address themselves not only to the diminution of the paperwork burdens of impact statement preparation, but also to their consistency, responsiveness to NEPA, redundancies within and among statements, and other matters of significant import. The 14 recommendations (somewhat abbreviated) are as follows:

1. To the extent permitted by law, the President should require all federal agencies to develop consistent regulations and definitions and assure coordination among federal agencies in EIS preparation.

2. The Council on Environmental Quality (CEQ) should work with the affected federal agencies to establish interagency agreement for determining lead agency or joint agency responsibilities for EIS preparation.

3. CEQ should prepare model legislation to establish minimum standards for state environmental policy acts to eliminate duplicative federal and state environmental policy act requirements.

4. CEQ should encourage federal agencies to assist state and local governments to use efficient techniques that would integrate EISs into the project planning documents and provide technical assistance to state and local governments.

5. CEQ should encourage federal agencies to establish cooperative agreements with state and local governments and regional agencies that institutionalize appropriate arrangements whereby the three steps of the EIS process—information collection, analysis, and decision making—are coordinated among the various levels of government affected by the proposed project.

6. CEQ, in cooperation with the Federal Regional Councils, should prepare for each region an environmental handbook which relates the requirements of NEPA and other environmental statutes to planning a public works project. If possible, the handbook should also incorporate provisions for permit, lease, and license applicants to meet environmental requirements.

7. CEQ should work with federal agencies to recognize and promote integration of the draft EISs into initial project planning documents, especially when the major federal action is a grant, lease, permit, license, or loan to state or local governments.

8. CEQ should amend its guidelines to regard a project plan as the equivalent of an EIS if it:

a. incorporates all elements of an EIS, in compliance with applicable federal agency regulations, and

b. involves federal agency participation in and certification of the plan's content.

9. CEQ should amend its guidelines to permit circulation of a "summary" instead of a complete EIS document, when the only purpose of the distribution is to meet disclosure requirements of NEPA.

10. CEQ should amend its guidelines to recognize and promote use of an "integrated environmental assessment/environmental impact statement" process.

11. CEQ should encourage federal agencies to use areawide EISs instead of preparing site-specific EISs for related actions.

12. CEQ should encourage development and use of environmental resource inventories to avoid duplication of base-line data for an EIS. These should consolidate and coordinate data on, for example, geology, hydrology, botany, and zoology by federal region.

13. CEQ should provide guidance to support a concept of citing accepted environmental resource inventories by reference in an EIS instead of including all inventory information.

14. CEQ should assume responsibility for identifying, evaluating, and disseminating efficiency techniques to comply with NEPA.

Consistent with the basic mandate of the Commission, the report compresses into 60 pages suggested solutions to most of the major problems which plague the EIS process. It is well worth reading. Unfortunately, availability may pose some problems. When we asked for additional copies, we were informed that printing was being delayed by the unavailability of biodegradable paper. Absit omen.

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EIS: Key to Environmental Impact Statements, Vol. 1, No.

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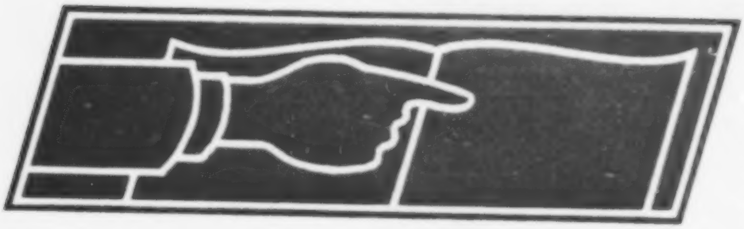
Appendix 6

Streamlining the EIS process

Preparing environmental impact statements is often a costly, time-consuming, duplicative task. A noted information systems expert suggests ways to improve it



What have the forthcoming 1980 Winter Olympic Games, electric power stations, and human heart pacemakers in common? Pursuant to the National Environmental Policy Act (NEPA), they, like many other projects and installations, require an environmental impact statement (EIS). "A heart pacemaker, too?" someone asks incredulously. "Yes, if it is plutonium powered," you answer. "Now where would I find an EIS on heart pacemakers?" is the next question you hear. The same question is asked for many other EISs.

Where, indeed? Until very recently, EISs were essentially "fugitive literature." Abstracts and indexes did not exist in reference works such as *Chemical Abstracts*, *Engineering Index*, *Environmental Abstracts*, or similar publications. "EISs were not 'findable' like, say, works on bridge building. Once in a while an odd one could turn up, but you can't count on it," Saul Herner, president of Herner and Company (Washington, D.C.), told *ES&T*.

Meets a need

Thus, it was evident that a real need for a way to locate EISs existed, and Herner resolved to meet it. The effort began in 1975 and came to fruition with the first issue in January of this year of *EIS: Key to Environmental Impact Statements*, a monthly publication. Basically, *EIS* provides indexes to subjects involved in the statements it covers, geographical areas affected by proposed actions, and the agency/organization responsible for each statement. Next, abstracts, in readily understandable language, of draft and final EISs are presented, along with descriptive material and a location guide. There is also a monthly editorial, highlighting the contents of each *EIS* issue, and discussing topical environmental items.

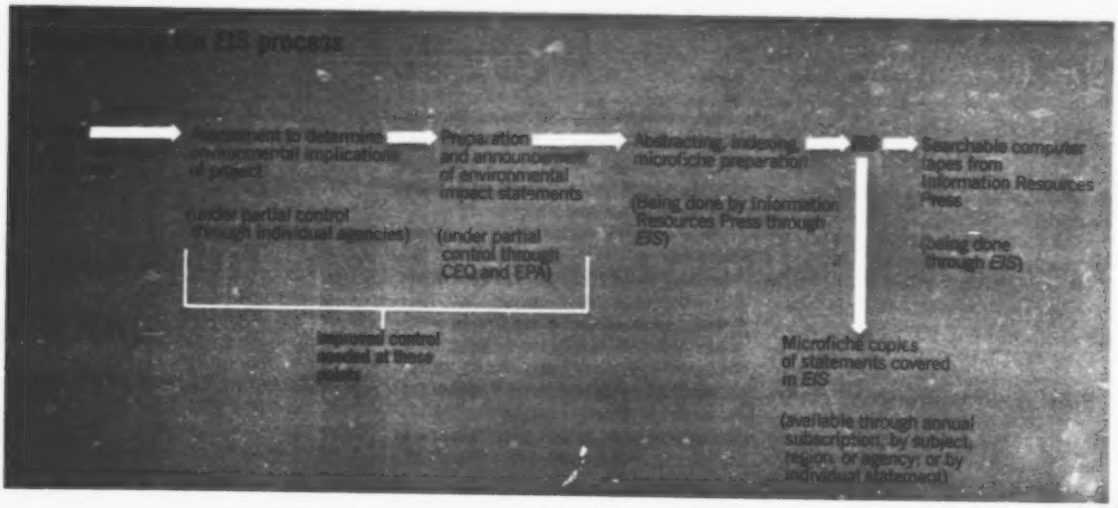
EISs from before this year are not left out of Herner's activities. A division, Information Resources Press (IRP), which publishes *EIS*, is preparing abstracts of all of the approximately 4500 final EISs that appeared since NEPA (1969–1976). These will be available in bound volumes, microfiche, and computer-searchable tapes. As of press time, IRP had about 30 commitments for this past EIS service, as well as approximately 600 subscriptions to *EIS*. The 1969–1976 compilation service will cost a client approximately $10 000; annual subscriptions to *EIS* are $200. Of the 100 employees at Herner, 10 work full time on the compilation service and *EIS*.

Saul Herner gave *ES&T* an example of the benefit that easy location of an EIS might confer. Suppose there is a power plant in northern New Mexico, for which an EIS was written. Now, plans are made to build another one in a nearby geographically and climatologically similar area of southern Colorado. If an assessment and EIS must be done from "scratch," one must figure on the efforts and expenses of some 3–6 man-months of well-paid experts' work; indeed, that is what usually happens.

However, if the New Mexico EIS can be found without a wild agency-to-agency goosechase, some of the information there could well ease and shorten the task of preparing the Colorado EIS. For example, some of the required data for Colorado could be included by reference to like information in the New Mexico statement. This is one of the aims that *EIS* and the service for past EISs is out to accomplish.

Improved control

Streamlining the "findebility" and retrievability of EISs is one of IRP's goals; another is to improve control over the EIS process and over the assessment process leading to statement preparation. At present, "control really begins after an EIS


the EIS process
Assessment to determine environmental implications of project
(under partial control through individual agencies)
Preparation and announcement of environmental impact statements
(under partial control through CEQ and EPA)
Abstracting, indexing, microfiche preparation
(Being done by Information Resources Press through EIS)
EIS
Searchable computer tapes from Information Resources Press
(being done through EIS)
Microfiche copies of statements covered in EIS
(available through annual subscription, by subject, region, or agency; or by individual statement)
Improved control needed at these points

is issued, at which time it is examined by EPA for completeness and adherence to NEPA requirements, and is announced by the Council on Environmental Quality (CEQ) in the *Federal Register,*" Herner told *ES&T*.

Herner believes that EIS management control and public awareness should start at the onset of environmental assessment activity. Thus, for example, if an impact is very negative, that fact should soon be apparent, and the project could be dropped before much money is spent on an EIS and other items. Also, the EIS preparation process could be standardized and improved, especially with respect to cost and time, and elimination of much redundancy of similar statements.

Saul Herner
"More effective controls are needed"

Herner suggests tighter control at the assessment, preparation, and announcement steps, with reasonable allowances for differences between projects or products and agency requirements. Indeed, IRP is planning to work with a U.S. government agency to find ways of establishing and optimizing this control.

The requirement for preparing assessments and EISs is here to stay. But the job can be made more standard, simpler, less time-consuming, less costly, and less duplicative.

Oh yes, about the curious EIS on heart pacemakers—it is described in *EIS*, February 1977, p 57. Or, for more detail, the whole statement, issued July 1976 (Final), can be found at the Office of Nuclear Material Safety and Safeguards, Nuclear Regulatory Commission, Washington, D.C., now a part of the new Department of Energy. It also can be obtained from IRP, which sells microfiche and paper copies of all impact statements it covers. JJ

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Appendix 7

Barry Gilbert, Data Coordinator
Air Programs Branch, Region IV
Atlanta, Georgia
(FTS 257-2864; CML 404-881-2864)

STATE AIR QUALITY DATA CONTACTS

ALABAMA	Mr. Ken Barrett, Air Quality Section, Division of Air Pollution Control, Alabama Air Pollution Control Commission, 645 South McDonough Street, Montgomery, Alabama 36104 (205-834-6570)
FLORIDA	Mr. Dick Arbes, Air Quality Section, Florida Department of Environmental Regulations, 2562 Executive Center Circle, East, Montgomery Building, Tallahassee, Florida 32301 (904-844-8145)
GEORGIA	Mr. William D. Estes, Chief, Air Quality Evaluation Section, Environmental Protection Division, Georgia Department of Natural Resources, 535 Milam Avenue, Atlanta, Georgia 30315 (404-656-4997)
KENTUCKY	Mr. Larry Teriot, Chief, Air Quality, West Frankfort Office Complex, U.S. 127 South, Frankfort, Kentucky 40601 (502-564-6798
MISSISSIPPI	Mr. D. D. Jones, Chief, Field Monitoring Section, Division of Air Pollution Control, Mississippi Air & Water Pollution Control Commission, Post Office Box 827, Jackson, Mississippi 39205 (601-354-2550)
NORTH CAROLINA	Mr. Glen Ross, Air Qualtiy Section, North Carolina Department of Natural & Economic Resources, Post Office Box 27687, Raleigh, North Carolina 27611 (919-758-4740)
SOUTH CAROLINA	Mr. Gene Slice, Bureau of Air Quality Control, South Carolina Department of Health & Environmental Control 2600 Bull Street, Columbia, South Carolina 29201 (803-758-5581)
TENNESSEE	Mr. Robert Foster, Chief, Technical Services, Tennessee Department of Public Health, 256 Capitol Hill Building, 301 Seventh Avenue, North, Nashville, Tennessee 37219 (615-741-3651)

REGION IV STATE CONTACTS - AIR EMISSIONS INVENTORY

For Information on obtaining available state reports, please contact the appropriate person in each state.

ALABAMA
Dick McNider
Division of Air Pollution Control Commission, 645
South McDonough Street, Montgomery, AL 36104

FLORIDA
Bob Iacampo
Florida Department of Environmental Regulation
2562 Executive Circle East, Montgomery
Building, Tallahassee, FL 32301

GEORGIA
Jim Mullins
Air Protection Branch, Environmental Protection
Division, Georgia Department of Natural Resources,
270 Washington Street, SW, Atlanta, GA 30303

KENTUCKY
Edd Frazier
Kentucky Department for Natural Resources and
Environmental Protection, West Frankfort Office
Complex, U.S. 127, S, Frankfort, KY 40601

MISSISSIPPI
Earl Lemaster
Division of Air Pollution Control, Mississippi
Air and Water Pollution Control Commission,
P.O. Box 827, Jackson, MS 39205

NORTH CAROLINA
Tom Allen
Air Quality Section, North Carolina Department
of Natural and Economic Resources, P.O. Box
27687, Jackson, MS 39205

SOUTH CAROLINA
Jerry Chalmers
Bureau of Air Quality Control, South Carolina
Department of Health and Environmental Protection
2600 Bull St., Columbia, SC 29201

TENNESSEE
Stan Lodl
Tennessee Department of Public Health
265 Capitol Hill Building, 301 Seventh
Ave., N, Nashville, TN 37219

storet

EPA's
Computerized
Water Quality
Data Base

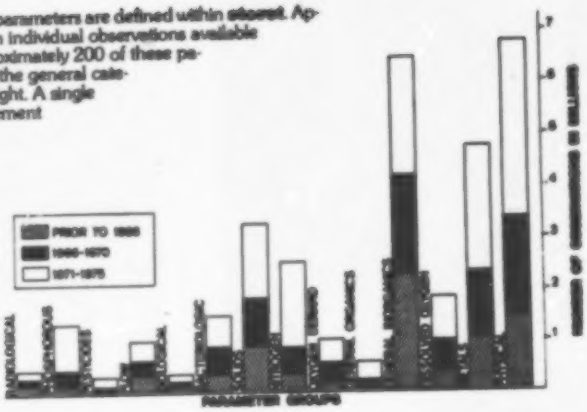
the right answer

U. S. Environmental Protection Agency
Office of Water and Hazardous Materials
Washington, D. C.

storet provides water quality data

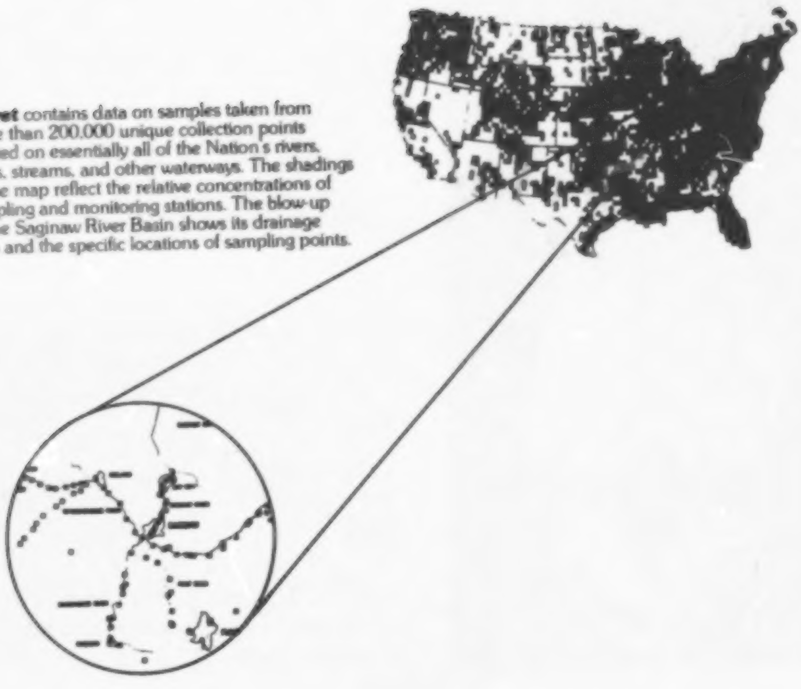
on the right parameters

Some 1800 unique water quality parameters are defined within **storet**. Approximately 80% of the 40 million individual observations available within the system pertain to approximately 200 of these parameters which are grouped into the general categories shown in the table to the right. A single observation represents a measurement of a single parameter at a specific location, or station, at a specific point in time.



at the right stations

storet contains data on samples taken from more than 200,000 unique collection points located on essentially all of the Nation's rivers, lakes, streams, and other waterways. The shadings of the map reflect the relative concentrations of sampling and monitoring stations. The blow-up of the Saginaw River Basin shows its drainage area and the specific locations of sampling points.

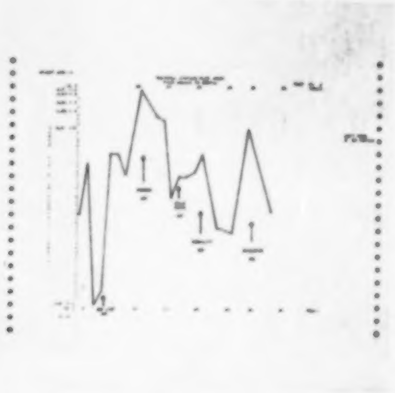


basin planning

A river basin is the area drained by a single river and its tributaries. A water quality management basin plan is a management document that identifies the water quality problems of a particular basin, or portion of a basin, and sets forth an effective remedial program to alleviate those problems. Overall basin needs and priorities are assessed, actions scheduled, and the necessary coordination with concerned organizations planned.

The needs and priorities are based largely upon water quality data and the analysis of this data. For example, fecal coliform bacteria is a common indicator of pollution problems in areas affected by major municipal/industrial activity. A plot of coliform along a stretch of a river can quickly ascertain the presence of a bacterial source and the extent of a pollution problem.

The development of an effective planning process is crucial to effective water quality management. This is particularly true for river basin planning as required under various sections of PL 92-500. River basin plans are primarily the responsibility of the states, and the law delineates the rather extensive amount of information that must be provided.



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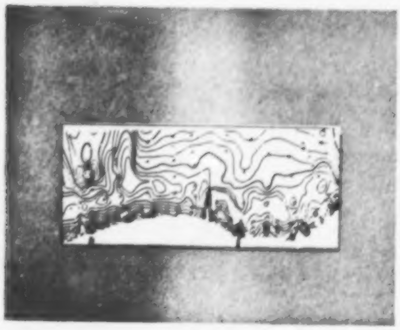
research

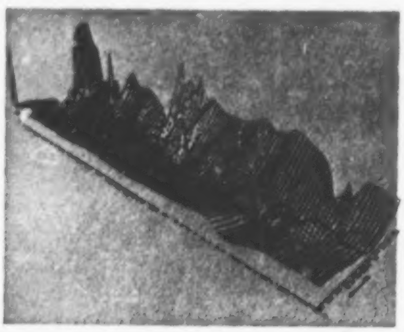
In order to achieve our national objective of having water that is clean enough both for recreational activity and for the protection of fish and wildlife, numerous research and development efforts have been initiated to acquire a thorough understanding of the complex and variable biological systems that characterize our waterways. Research tells us what a specific level of a specific pollutant does to humans, animals, and crops. It establishes thresholds at which we might expect adverse effects from environmental pollutants, alone or in combination. (And from these thresholds, criteria for water quality standards can be established.) It provides the basic scientific knowledge we need to safeguard the public health and to balance the benefits of a specific product against its environmental risks.

A representative effort is that of the EPA Grosse Ile Laboratory's Research Program to improve the water quality of the Great Lakes. This Lab is involved with a number of other agencies in developing the scientific information needed to assess the effectiveness of implemented programs on Great Lakes water quality, to form the basis for needed control actions, and to develop the scientific information needed to support the Canadian/U. S. Agreement for the Great Lakes. Over a dozen U. S. and Canadian agencies, universities, and joint commissions are participating in this extensive program launched in 1972.

Since this is an on-going, international program involving both water quality management and research, it is essential that all data gathered on the water quality of the Great Lakes be readily accessible by all investigators. Accordingly, all participants are required to enter all collected data into **storet**, thereby greatly expediting the use and analysis of the information through sharing of data. This significant, multi-organizational research program not only illustrates the value of **storet** in research-oriented endeavors, but also it demonstrates how the use of an accepted central system can foster cooperation among a group of organizations sharing common interests.

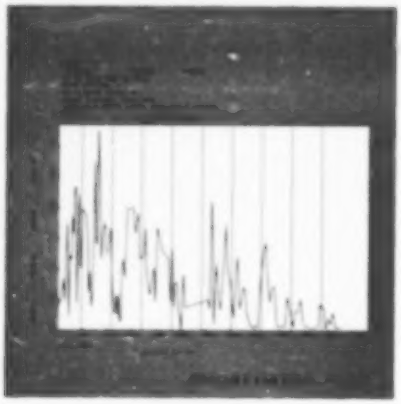
CHLOROPHYLL A IN LAKE ONTARIO
TWO PERSPECTIVE VIEWS

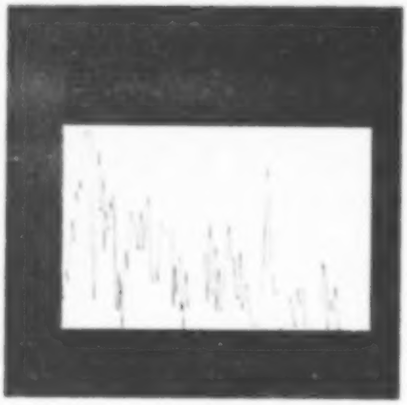




monitoring & surveillance

The data in **storet** originates from samples taken as part of individual monitoring programs conducted by the states and other organizations. Several objectives of these monitoring efforts are to identify and assess quantitatively the magnitude of existing and potential water pollution problems, and to detect any trends or changes over a period of time. Reports such as the trend plots shown here, which show presence of phosphates and ammonia as a function of time, vividly point out where problems do and do not exist.





npdes permit program

Far-reaching goals were established by PL 92-500: By 1983, water clean enough for swimming, boating, and protection of fish, shellfish, and wildlife; and by 1985, no discharges whatsoever of pollutants into the Nation's waters! To achieve these ambitious but essential goals, the law established a national permit program, known as NPDES – the National Pollutant Discharge Elimination System, to control the discharge of pollutants into any waterway. This program is the mechanism for insuring that effluent limits are met, that the necessary technology is applied, and that all requirements of the 1972 law for controlling discharges and complying with water quality standards are met on schedule. Permits are to be granted to individual dischargers only after they show that their effluents will not contaminate a waterway in excess of established water quality standards, or will not lower its existing quality.

The law allows polluters time to improve facilities, but provides that corrective programs must meet the "best practicable" and "best available" standards of water pollution control technology by 1977 and 1983 respectively.

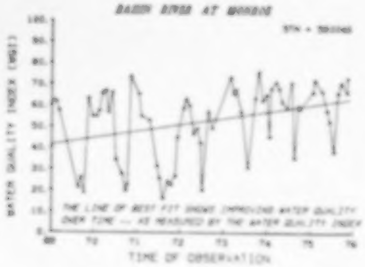
EFFLUENT VIOLATIONS REPORT

progress reporting

Under Section 305(b) of PL 92-500, states are required to submit annual reports to EPA on sources of pollution—their nature, extent, recommendations for control, and the cost of these controls. (An excerpt from the State of Michigan's 305(b) report is shown below.) As practices become more sophisticated, these reports should reflect the effects of these sources on the pollution of groundwaters, and provide an inventory of wells which can be used to determine groundwater quality within a state's jurisdiction.

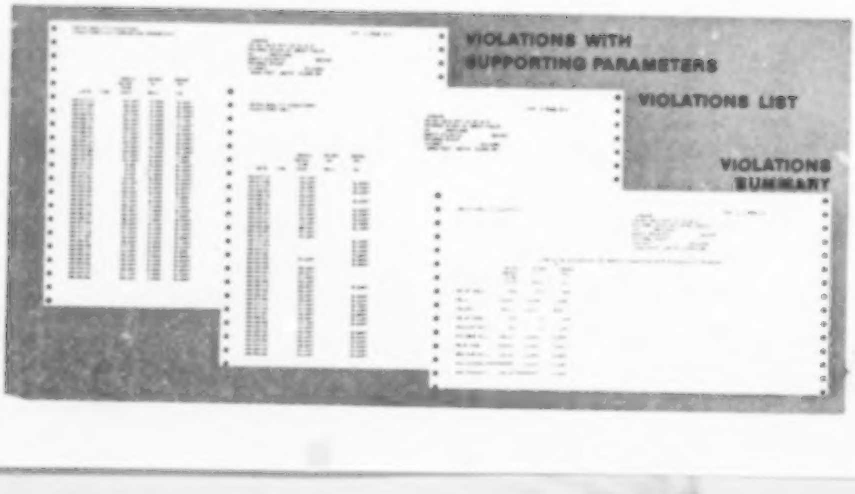
A new activated sewage treatment plant was built on Fountain Creek below Colorado Springs in late 1972. The data in **storet** collected prior and subsequent to the implementation of the new plant were compared. The number of violations for dissolved oxygen had dropped from 53% to 7%, for dissolved solids from 59% to 33%, for BOD from 85% to 73%, and for fecal coliform from 89% to 58%. Similar improvement occurred and was demonstrated when a sewage treatment plant was built in the Fargo, North Dakota area.

These examples show the applicability of using the data in **storet** to demonstrate progress either from an over-all point of view or from the viewpoint of a single effort.



standards & criteria

Associated with specific water uses are the water quality standards which must be met in order for the water to be used for its intended purposes, consistent with the 1983 goals of water quality. Once standards have been established by states in accordance with national criteria, it is necessary to monitor the effect of water pollution abatement and control activities relative to those criteria. A number of **storet** report programs can be used, such as the ones pictured below, to track the progress of water quality improvement efforts.


VIOLATIONS WITH SUPPORTING PARAMETERS
VIOLATIONS LIST
VIOLATIONS SUMMARY

toxic substances

Although many substances are potentially toxic to aquatic life and other organisms when present in sufficient concentration for a sufficient period of time, the term toxic substances generally refers to those substances which are dangerous even in very low concentration. Consequently, the 1977 and 1983 deadlines for limiting pollutant discharges do not apply in the cases of these deadly substances, such as mercury, cadmium, and toxaphene. Steps required to meet standards established for toxic substances must be taken quickly to protect the public health and welfare. To this end, EPA is empowered to restrain discharges of any pollutants which present an imminent and substantial endangerment to the health or livelihood of the public.

All toxic substances for which water quality analyses have been performed are defined within **storet**, and the system can easily accommodate the inclusion of additional substances upon their discovery. Reports such as the one shown below (from a Council on Environmental Quality report) can be readily obtained from **storet** data to demonstrate the presence or absence of toxic substances in any body of water for which data are available.

in summary, the right answer

These pages have shown a number of uses made of **storet**, and its wealth of water quality data, by a variety of governmental agencies and other organizations. To further underscore the role that **storet** can play to help you fulfill your water quality assessment and management objectives, consider the following additional answers that **storet** can provide.

- Help evaluate cost-effectiveness of previously implemented water quality programs
- Help promote water quality programs by substantiating the effectiveness of other similar programs
- Help justify budget requests for water quality programs
- Help cut sampling costs by coordinating efforts with other organizations
- Provide a repository for your data collection efforts
- Help identify where monitoring efforts are needed, thereby determining where funds need to be allocated
- Help design overall programs based upon the successes of others
- Help complete water quality management basin plans
- Help prepare fact sheets required by permit applications
- Detect changes in pollutants that could change existing permits

How can **storet** help you?

collected and used by the right people

- State Agencies
- Cities and Counties
- Interstate Commissions
- Water Quality Managers
- Environmental Planners
- Sanitary Engineers
- EPA Regional Offices
- EPA Laboratories
- Federal Agencies
- Canadian Agencies
- U. S. Territories

These individuals and organizations actively participate in the collection, storage, retrieval, and analysis of water quality data. All utilize **storet** for these efforts, contributing to the quality and quantity of the parameter observations described on the opposite page. Several Federal agencies—including the U. S. Forest Service, the U. S. Army Corps of Engineers, the Bureau of Reclamation, the U. S. Geological Survey, and the Tennessee Valley Authority—complement the efforts of those having specific geographical interests. Over 40 states, as well as many other organizations, have direct access to **storet** for both storage and retrieval, thereby contributing significantly to the timeliness of **storet**'s data.

and presented in the right formats

The array of representative reports pictured here exemplifies the versatility of **storet** and its water quality data to help users prepare a myriad of detailed, summary, or exception reports relative to their specific areas or locations of interest. Data reported can reflect the latest, most current information available, or it can draw upon the historical depth of the data, going back as far as the late '50s. Most users obtain their reports from small portable computer terminals conveniently located in or near their offices.

and **storet** can help you

These two pages have presented an overview of the data available within **storet**. The inside pages describe several examples of how various users today utilize **storet** to achieve a variety of objectives relating to water quality assessment and management.

epa

The Environmental Protection Agency was created in 1970 to foster an integrated, coordinated attack on environmental pollution in cooperation with state and local governments. EPA endeavors to abate and control pollution systematically by proper integration of a variety of research, monitoring, standard setting, and enforcement activities. Through Public Law 92-500, EPA has the overall responsibility to provide water that is clean enough both for recreational activity and for the protection of fish and wildlife. Inherent in this charter is the requirement of maintaining an information inventory concerning the quality of the Nation's waters.

storet

storet is a computerized data base utility maintained by EPA for the **sto**rage and **ret**rieval of parametric data relating to the quality of the waterways of the United States. The system was conceived and initiated under the auspices and administration of the Public Health Service in the early 1960s. Since its early days when **storet** input and output was achieved via the mails, the system has evolved into a comprehensive information data base, accessible by hundreds of users via computer terminals located throughout the country.

storet— the right answer

This publication was prepared to provide an overview of the content and capabilities of the **storet** system, and to describe a number of uses made of this information by those organizations concerned and involved with the abatement and control of water pollution within the United States.

for more information

For further information on how **storet** can help you fulfill your needs with respect to the collection, reporting, and analysis of water quality data, contact your local **storet** representative. **storet** User Assistance in Washington, D.C. (202-426-7792) can give you names and phone numbers.

Appendix 9

INFORMATION SERVICES

FOR

Business

Industry

Government

FROM THE

GEORGIA TECH LIBRARY

INFORMATION EXCHANGE CENTER
PRICE GILBERT MEMORIAL LIBRARY
GEORGIA INSTITUTE OF TECHNOLOGY
Atlanta, Georgia 30332

Telephone: (404) 894-4526
TWX: 810-751-8639

SCHEDULE OF SERVICES AND FEES

INFORMATION SERVICES AVAILABLE	BUSINESS, INDUSTRY, GOVERNMENT AGENCIES
Reference/Bibliographic Services	$15.00 per hour (less than 1 hour-$10.00)
Literature Searching	
Retrospective or Current Manual Searching	$15.00 per hour, plus copying cost (not to exceed 5 hours without further consultation)
On-Line, Interactive Computer Searching	Please inquire. Cost varies with data base.
Verification of Incomplete or Incorrect Citations	$5.00-$10.00 per item depending on complexity
Interlibrary Loan	$5.00 per item
Locating and Obtaining Items not in the Library	$5.00 per item plus cost to Library
Translations	
Search for Existing Translations	$5.00 plus cost to Library
Referral to Translator	$5.00 minimum
Reproduction	
Photocopying/Microfilming	$2.50 per item, plus 10¢ per page
Enlargements (from microtext)	$2.50 per item, plus 15¢ per page
Microfiche Duplications	$2.50 per item, plus 35¢ per page
Georgia Tech Library Microfiche Catalog Basic Catalog plus Supplements	Subscription. Please Inquire.
	(Additional charges are made for rush service.)

The Georgia Tech Library has operated a cost recovery, fee-based information service for off-campus business, industry, research, and professional personnel since 1968. Services include literature searching, document delivery, translations, patent screening, etc.

The strengths of the library's resources are built around the subject areas in which the Institute offers graduate degrees and research: Engineering, science, and management. These areas coincide with the subjects of most frequent concern to business and industry.

For additional information, call James B. Dodd, Coordinator of Service to Business & Industry, (404) 894-4526. We welcome your use of this major research facility.

Subject Strengths

ENGINEERING ** SCIENCE ** MANAGEMENT

Aerospace Engineering
Architecture
Architectural Engineering
Bioengineering
Biology
Building Construction
Ceramic Engineering
Chemical Engineering
Chemistry
City Planning
Civil Engineering
Communication Engineering
Computer Utilization
Crystallography
Electrical Engineering
Engineering Mechanics
Environmental Studies
Electronics
Geophysical Sciences
Industrial Design
Industrial Engineering
Industrial Management
Information Science
Management
Materials Technology
Mathematics
Mechanical Engineering
Metallurgy
Nuclear Engineering
Nuclear Science
Paper
Physics
Psychology
Public Health
Public Health Engineering
Sanitary Engineering
Safety Engineering
Systems Engineering
Textile Engineering
Textiles
Transportation
Wastes Engineering
Water Resources

Special Materials Collections

The Georgia Tech Library has extensive holdings of the following special materials:

Abstracts * Bibliographies * Indexes

Patents (U.S. and Foreign)

Standards and Specifications

Technical Reports
(U.S. Atomic Energy Commission, National Aeronautics and Space Administration, Department of Defense, Housing and Urban Development, Rand Corporation, AD's, PB's, etc.)

Maps * Atlases * Nautical Charts
(Deposit service from U.S.G.S., Defense Mapping Agency, and National Oceanic Service.)

Government Documents
(U.S. Government Printing Office Depository.)

Russian Serials

Conference Proceedings and Symposia

Industrial Catalogs and Directories

LITERATURE SEARCHING

RETROSPECTIVE * CURRENT AWARENESS * SDI * CUSTOM * MANUAL * ON-LINE

The Georgia Tech Library provides literature search service using the most appropriate tools available. Our manual and on-line, computer-based searches combine the latest mechanical techniques with the personal touch of trained information personnel and subject specialists.

PRINTED SEARCHING TOOLS

The library's resources include a comprehensive collection of abstracting and indexing journals and other bibliographic tools. The disciplines in science and technology are covered with considerable magnitude and depth. The most important abstracting and indexing tools in the social sciences, humanities, and liberal arts are also available.

MACHINE SEARCHABLE SOURCES OF INFORMATION

Over 85 separate data bases, described on the following pages, are accessible through on-line, interactive computerized literature searching. Most of the data bases are subject oriented -- some quite broad and others quite narrow in scope. Others are comprehensive in subject coverage but are limited by format of material covered, such as books, patents, dissertations, or government reports. Some others are non-bibliographical data bases containing statistics and other information on industrial plants, foundations, and research programs in progress.

WHICH TO CHOOSE?

The proper sources and search strategy can best be determined by direct discussion between the searcher and the requestor. Whether or not a search should be conducted on-line, manually, or both will depend on several variables: The general field, specific topic, interdisciplinary aspects of the topic, time period to be covered, depth and comprehensiveness desired, time available in which to do the search, type of output desired, and the amount of funds available for the search.

DOCUMENT DELIVERY

After the literature search -- if it is necessary to obtain the book, article, report, patent, or other document identified in the search, the resources and services of the library are again important. Most of the needed items will be in the library. For those which are not, the Information Exchange Center in the library will try to obtain them for you or refer you to the proper source.

For more specific information, or to order a search, call James B. Dodd, Coordinator of Service to Business & Industry, (404) 894-4526.

On-line Data Bases

SCIENCE AND TECHNOLOGY

DATA BASE NAME	SOURCE, PRINTED EQUIVALENT, OR SUBJECT COVERAGE	TIME SPAN
Engineering		
* COMPENDEX	Engineering Index	1970 +
* INSPEC B & C	Electrical Engineering, Electronics, Computers, & Control	1969 +
ISMEC	Mechanical Engineering & Engineering Management	1973 +
* CMA/EMA	Electronic Marketing Abstracts	1972 +
SAE ABSTRACTS	Automotive Engineering	1965
EPRI	# Electric Utility R & D Projects	Current
TITUS	Textile Engineering	1970
TECHNOTEC	# Licensable Technology Exchange, Worldwide	Current
Chemistry & Chemical Engineering		
CHEMCON	Chemical Abstracts	1970 +
CASIA	# Chemical Subject Headings	1973 +
CHEMNAME	# Registry #'s, Index Names, Formulas	1973 +
CAPC	CA Patent Concordance	1972 +
CLAIMS/CHEM	Chemical Patents	1950 +
* CMA/EMA	Chemical Marketing Abstracts	1972 +
* CIN	Chemical Industry News	1973 +
PAPERCHEM	Institute of Paper Chemistry	1969 +
Physics		
* INSPEC - A	Physics Abstracts	1969 +
SPIN	Physics Notices	1975 +
Nuclear Physics & Nuclear Engineering		
NSA	• Nuclear Science Abstracts	1967-1976
NSC	• Nuclear Safety Information Center	1960 +
NSR	• Nuclear Structure References	1969 +
Biological Sciences		
BIOSIS	Biological Abstracts & Biosis Previews	1972 +
AGRICOLA	National Agricultural Library	1970 +
* CAB ABSTRACTS	Commonwealth Agricultural Bureau	1973 +
* CRIS	# Agriculture Research Projects	
OCEANIC ABSTRACTS	Oceans and Seas	1964 +
ASFA	Marine Biology and Limnology	1975 +
FSTA	Food & Science Technology	
NBI	• National Biomonitoring Inventory	
Earth Sciences		
GEOREF	Geology	1967 +
GEOARCHIVE	Geology	1969 +
MGA	Meteorology & Geoastrophysics	1972 +
OCEANIC ABSTRACTS	Oceans and Seas	1964 +
Metallurgy		
METADEX	Metallurgical Abstracts & Index	1966 +
* WAA	World Aluminum Abstracts	1968 +
Transportation		
* TRIS-A	# Transportation Work in Progress Resumes (USDOT)	Current
* TRIS-B	Transportation Literature Abstracts (USDOT)	1968 +
Energy & Environment		
* APTIC	Air Pollution	1970 +
* ENVIROLINE	Environment Abstracts	1971 +
ENVIROBIB	Environmental Studies	1973 +
POLLUTION	Pollution Abstracts	1970 +
* EDB	• ERDA Energy Research Abstracts	1976 +
WRA	• Water Resources Abstracts	1968 +
* EMC	• Energy	1975 +
* EMI	• Evaluation of Chemicals as Environmental Mutagens	1968 +
* HTF	• Heated Effluents	1774 +
EDD	• #Energy R & D Projects	Current
EPRI	#Electric Utility R & D Projects	Current
Patents		
WPI	World-Wide Patents	1974 +
CLAIMS/CHEM	Chemical Patents	1950 +
CLAIMS/GEN	General, Electrical, Mechanical Patents	1970 +
CLAIMS/CLASS	# Patent Classifications	Current
CAPC	CA Patent Concordance	1972 +

SCIENCE AND TECHNOLOGY, CONT'D

DATA BASE NAME	SOURCE, PRINTED EQUIVALENT, OR SUBJECT COVERAGE	TIME SPAN
Other General & Special		
SCISEARCH	Science Citation Index	1974 +
* NTIS	U.S. Government Sponsored Research Reports	1970 +
SSIE	# Research in Progress, Smithsonian Scientific Information Exchange	Current
PNI	Pharmaceutical News	1974 +
TULSA	Petroleum Abstracts	1965 +
DMS	# Department of Defense Contract Awards	1975 +

SOCIAL SCIENCES - HUMANITIES - ARTS

DATA BASE NAME	SOURCE, PRINTED EQUIVALENT, OR SUBJECT COVERAGE	TIME SPAN
Education		
* ERIC	Education	1966 +
* AIM/ARM	Vocational Training	1967 -1976
* CEC	Exceptional Children	1966 +
NICEM	Non-print Educational Materials	1964 +
History		
* HISTORICAL ABSTRACTS	World History	1960 +
* AHL	American History and Life	1955 +
Other General and Special		
PAIS	Public Affairs	1976 +
* SOCABS	Sociological Abstracts	1967 +
SOCIAL SCISEARCH	Social Sciences Citation Index	1971 +
* APA	Psychological Abstracts	1967 +
NCCAN	Child Abuse & Neglect	
* LLBA	Language and Language Behavior	1963 +
* FOUNDATION GRANTS	# Philanthropic Grants	1973 +
FOUNDATION DIRECTORY	# Philanthropic Organizations	Current
ART MODERN	Modern Art Literature	1974 +
LISA	Library & Information Sciences	1969 +
GRANTS	# Private & Governmental Grants	Current

BUSINESS - ECONOMICS - MANAGEMENT

DATA BASE NAME	SOURCE, PRINTED EQUIVALENT, OR SUBJECT COVERAGE	TIME SPAN
ACCOUNTANTS	Accounting	1974 +
ASI	Government Statistics	1974 +
PTS DOMESTIC	Economic Statistics, U.S.	1971 +
PTS INTERNATIONAL	Economic Statistics, International	1972 +
F & S INDEXES	Business Research & Forecasting	1972 +
* INFORM	Business & Management Journals	1971 +
MANCON	Management	1974 +
* CIN	Chemical Industry Notes	1973 +
* CMA/EMA	Chemical and Electronics Markets	1972 +
P/E NEWS	Petroleum/ Energy Business News	1975 +
EIS PLANTS	# Industrial Plants	Current
DMS	# Department of Defense Contract Awards	1975 +

UNIVERSAL SUBJECT COVERAGE AND/OR GOVERNMENT PUBLICATIONS

DATA BASE NAME	SOURCE, PRINTED EQUIVALENT, OR SUBJECT COVERAGE	TIME SPAN
NYTIB	General Newspapers and News Magazines	1969 +
PAIS	Public Affairs	1976 +
DISSABS	International Dissertation Abstracts	1861 +
LIBCON	Library of Congress Monographic Cataloging	1970 +
CIS	Congressional Publications	1970 +
CRECORD	Congressional Record weekly index	1976 +
FEDERAL INDEX	U.S. Government Activities	1977 +
ASI	U.S. Government Statistics	1974 +
* NTIS	U.S. Government Sponsored Research Reports	1970 +
NRC	•,# National Referral Center, Library of Congress	Current
GRANTS	# Private & Governmental Grant Programs	Current

Notes:
* = Abstracts available in printout.
# = Non-bibliographic data bases.
• = ERDA data bases

Revised August 1977

On-line Data Bases

SOURCES and RATES -- Page 1'
(Revised August 1977)

	NAME OF DATA BASE	SUBJECT COVERAGE	INITIAL COVERAGE DATE	LOCKHEED COST PER MACHINE HOUR	LOCKHEED OFF-LINE COST/HIT	SDC OR OTHER COST PER MACHINE HOUR	SDC OR OTHER OFF-LINE COST/HIT
	ACCOUNTANTS	Accounting	1974			$ 73.00	$ .10
a	AGRICOLA	Agriculture, Food, & Nutrition	1970	$ 30.00	$ .05	$ 43.00	$ .06
a	AHL	American History & Life	1953	$ 70.00	$ .15		
a	AIM/ARM	Vocational Training	1967-1976	$ 30.00	$ .10		
a	APA	Psychology	1967	$ 35.00	$ .10		
a	APTIC	Air Pollution	1970	$ 40.00	$ .10		
	ART MODERN	Modern Art Literature	1974	$ 65.00	$ .15		
	ASFA	Marine Biology & Limnology	1975	$ 40.00	$ .10		
a	ASI	Government Statistics	1974			$ 108.00	$ .25
	BIOSIS PREVIEWS	Life Sciences	1972	$ 30.00	$ .10	$ 68.00	$ .10
a	CAB ABSTRACTS	Agriculture	1973	$ 70.00	$ .15		
	CAPC	# Chemical Patent Concordance	1972	$ 50.00	$ .08		
	CASIA	# Chemical Subject Headings	1973	$ 65.00	$ .12		
a	CEC	Exceptional Children	1966	$ 30.00	$ .10		
	CHEM CONDENSATES	Chemistry	1970-1976	$ 40.00	$ .08	$ 68.00	$ .12
	CHEM CONDENSATES	Chemistry	1977	$ 50.00	$ .16		
	CHEM NAME	# Chemistry -- Registry Numbers	1973	$ 65.00	$ .12		
a	CIN	Chemical Industry Notes	1974	$ 95.00	$ .20	$ 78.00	$ .10
a	CIS	Congressional Publications	1970			$ 108.00	$ .23
	CLAIMS/CHEM	Chemical Patents	1950	$155.00	$ .10		
	CLAIMS/CLASS	# Patent Classifications		$ 95.00	$ .10		
	CLAIMS/GEM	Non-chemical Patents	1970	$ 95.00	$ .10		
a	CMA/EMA	Chemical & Equipment Markets	1972	$ 95.00	$ .20		
a	COMPENDEX	Engineering	1970	$ 70.00	$ .10	$ 73.00	$ .10
	CRECORD	Congressional Record	1976			$ 88.00	$ .15
	CRIS	# Agriculture Research Projects	1974	$ 45.00	$ .10		
	DISSABS	Comprehensive University Research	1861	$ 60.00	$ .12	$ 63.00	$ .12
	DMMS	# Dod Contract Awards	1975	$ 95.00	$ .25		
a	EDB	ERDA Energy Research Abstracts	1976			•	
	EIS-PLANTS	# Industrial Plants	Current	$ 95.00	$ .30		
	ENERGY						
	ENVIRO BIB	Environmental Studies	1973	$ 65.00	$ .15		
a	ENVIROLINE/ENERGYLINE	Environmental Science	1971	$ 95.00	$ .20	$ 93.00	$ .20
	EPRI	# Electric Utility Research	Current			$ 30.00u	$ .20
a	ERIC	Education	1966	$ 30.00	$ .10	$ 43.00	$ .08
	F & S INDEXES	Business Research & Forecasting	1972	$ 95.00	$ .20		
	FDN DIRECTORY	# Philanthropic Organizations	Current	$ 65.00	$ .30		
	FDN GRANTS	# Philanthropic Grants	1973	$ 65.00	$ .30		
a	FEDERAL INDEX	National Policy & Federal Planning	1977	$ 95.00	$ .20		
	FSTA	Food & Science Technology	1969	$ 70.00	$ .15		
	GEOARCHIVE	Earth Sciences	1969	n.a.			

NOTES:
a = Printout includes abstracts
c = Source: Control Data Technotec
e = Source: ERDA
n = New York Times Information Bank
t = Source: USDOT through Batelle Columbus Laboratories
u = Source: Electric Utility Research Institute
n.a.= Price not yet determined
# = Non-bibliographic data base
* = Data base includes results of thorough retrospective searching in addition to current materials

On-line Data Bases

SOURCES and RATES -- Page 2
(Revised August 1977)

	NAME OF DATA BASE	SUBJECT COVERAGE	INITIAL COVERAGE DATE	LOCKHEED COST PER MACHINE HOUR	LOCKHEED OFF-LINE COST/HIT	SDC OR OTHER COST PER MACHINE HOUR	SDC OR OTHER OFF-LINE COST/HIT
	GEOREF	Earth Sciences	1967			$ 83.00	$ .20
*	GRANTS	Grant Programs	Current			$ 60.00	$ .35
*	HISTORICAL ABSTRACTS	History	1960	$ 70.00	$ .15		
*	INFORM/ABI	Business & Management	1971	$ 70.00	$ .10	$ 73.00	$ .10
*	INSPEC - A	Physics	1969	$ 50.00	$ .10		
*	INSPEC - B & C	Electronics, Computers, & Control	1969	$ 50.00	$ .10		
	ISMEC	Mechanical Engineering & Eng. Management	1973	$ 67.00	$ .12		
*	LLBA	Speech Pathology	1965	$ 60.00	$ .15		
	LIBCON	Library of Congress Cataloging	1970			$120.00	$ .25
	LISA	Library & Information Sciences	1969	n.a.	n.a.	$ 58.00	$ .15
	MANCOM	Management	1974			$ 73.00	$ .10
	METADEX	Metals & Metallurgy	1966	$ 85.00	$ .12		
*	MGA	Meteorology, Geoastrophysics	1972	$ 55.00	$ .10		
	NCCAN	Child Abuse & Neglect		n.a.	n.a.		
	NICEM	Non-print Educational Materials	1964	$ 75.00	$ .20		
	NRC	# National Referral Center	Current			*	
*	NTIS	Government Res. & Development	1964	$ 40.00	$ .10	$ 53.00	$ .08
*	NYTIS	Gen. Newspapers & Magazines	1969			$ 90.00n	$ .30
*	OCEANIC ABSTRACTS	Oceans and Seas	1964	$ 60.00	$ .10		
	PAIS	Public Affairs	1976	$ 65.00	$ .15		
	PAPERCHEM	Paper Chemistry	1969			$ 88.00	$ .10
	P/E NEWS	Petroleum/ Energy Business News	1975			$123.00	$ .11
	PNI	Pharmaceutical News	1976	$ 70.00	$ .15	$ 73.00	$ .15
	POLLUTION	Pollution	1970	$ 70.00	$ .15	$ 73.00	$ .15
	PTS INT'L STATISTICS-A	International Statistical Abstracts	1972	$ 95.00	$ .20		
	PTS INT'L STATISTICS-B	International Annual Time Series	1972	$ 95.00	$ .20		
	PTS U.S. STATISTICS-A	U.S. Statistical Abstracts	1972	$ 95.00	$ .20		
	PTS U.S. STATISTICS-B	U.S. Annual Time Series	1972	$ 95.00	$ .20		
	PTS U.S. STATISTICS-C	U.S. Regional Time Series	1972	$ 95.00	$ .20		
	RECON - ERDA	(See separate listing of 15 data bases relating to energy and environmental problems)					
	SAE ABSTRACTS	Automotive Engineering	1965			$ 88.00	$ .15
	SCISEARCH	Science & Engineering Citations	1974	$ 75.00	$ .10		
*	SOCABS	Sociology	1963	$ 60.00	$ .15		
*	SOCIAL SCISEARCH	Social Sciences Citations	1972	$ 75.00	$ .10		
	SPIN	Physics	1975	n.a.			
	SSIE	# Research in Progress	FY-1975			$118.00	$ .25
	TECHNOTEC	# Technology Exchange Service	Current			$ 70.00e	$ .06
	TITUS	Textile Engineering	1970			n.a.	n.a.
	TRIS - A	# Transportation Work in Progress	1967			$ 56.00t	$ .10
	TRIS - B	Transportation Literature	1967			$ 56.00t	$ .10
	TULSA	Petroleum Exploration & Production	1965			$133.00	$ .50
*	WAA	Aluminum	1968	$ 35.00	$ .10		
	WPI	Patent, World-Wide	1963			$ 98.00	$ .12
	WRA	Water Resources	1968			•	

ON-LINE COMPUTER LITERATURE AND PATENT SEARCHING

Mrs. Jackie Marvin at computer terminal.

The acquisition of the Texas Instruments Silent 700 remote terminal has added a new dimension to the literature searching capabilities of the Information Exchange Center. Over 85 computerized data bases can be searched on-line.

The data bases cover all areas of science and engineering. Other subjects and materials covered are education, government statistics, congressional publications, social sciences, management, and business forecasting. Fees for using the data bases vary from $10.00 per hour to $150.00 per hour. Most searches can be done in 10-15 minutes, so the costs are quite reasonable.

Most of the data bases are by-products of the standard printed abstracting and indexing publications, such as Chemical Abstracts, Engineering Index, Psychological Abstracts, Predicasts, Social Science Citation Index, Research in Education, and Uniterm Index to U.S. Chemical Patents. Besides being much quicker, the computerized on-line searching can be performed at much less cost than a manual search of the same material. Results can be printed out on-line, if desired.

To illustrate with a specific case, we recently did a search to identify an expired patent for a specific chemical assigned to a large international chemical firm. The data base contained over 4500 patents assigned to that firm. By restricting the search further by entering a few key words and appropriate patent class and subclass information, the number of patents was reduced to 85. We had the information about these patents printed off-line and mailed to us. When we received the print-out three days later, we quickly identified the specific patent of interest to the client. Although we were using the most expensive data base available, we were on-line only 7 minutes, and the total cost to the client was under $45.00. To scan those 4500 patents manually would have required at least 150 manhours.

Patent Services

The library's collection of U.S. patents is complete from 1946, with a scattered collection of earlier patents. The Official Gazette of the U.S. Patent Office is complete from its beginning. The library also owns all other patent searching aids issued by the U.S. Patent Office.

For foreign patents, the library has abstracts of the patents issued by all the major industrial countries of the world. An airmail coupon service is used to obtain the complete texts of foreign patents as needed.

Patents are an important part of the technical literature, and in many fields they are covered routinely by the major indexing and abstracting publications right along with the periodical and book literature.

For the inventor the library offers a limited patent searching service. We will assist you in getting the services that are available to you directly from the U.S. Patent Office. We will help you use the tools that are available for conducting your own preliminary patent search. We will conduct a preliminary screening of patents in appropriately designated subject classes and subclasses, and we will provide you with a list of agents and attorneys who are licensed to practice before the U.S. Patent Office.

For other patent users we have the resources to search U.S. patents by patentee, corporate assignee, by subject class and subclass, and by keywords. There are some options for on-line computer patent searching instead of time-consuming manual searching.

Translation Services

Accurate word-for-word translations of technical and scientific literature can be expensive. Rates vary from $.02 per word to $.05+ per word, depending upon the language and technical difficulty of the subject matter.

Opportunities for cost savings.

It is quite possible that the item of your interest may have already been translated into English. Special libraries throughout the U.S. and Great Britain share their translations through a pool. Copies of existing translations are available at a fraction of the cost of having the article translated again.

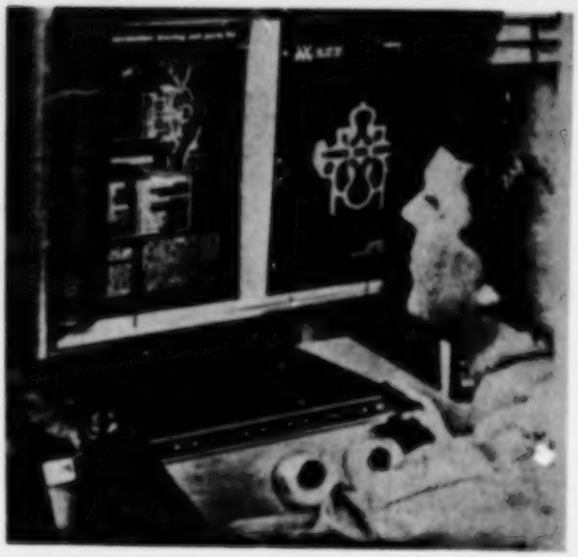
Patent equivalency offers another possible alternative to the word-for-word translation of some foreign patents. Frequently companies will wish to protect their patent rights in several countries. An invention that is patented in France or Germany or Japan may also be patented in the U.S., Great Britain, Canada, or some other English speaking country. Patent concordances can be searched to locate such equivalents.

Should these cost-saving efforts fail, the item can still be sent to a competent translator. In locating a translator, we try to match not only the language skills but the technical background as well.

STANDARDS & SPECIFICATIONS !!!

VENDOR CATALOGS !!!

ARE THESE PROBLEM MATERIALS FOR YOUR COMPANY?



The technical information resources of the Georgia Tech Library have been enhanced by the recent addition of the VSMF microfilm service.

VSMF stands for Visual Search Microfilm Files and consists of three interrelated files:

Vendor Catalogs
Standards and Specifications
Product Design File

The Vendor Catalog sections contain the unedited contents of the catalogs of over 40,000 U.S. manufacturers.

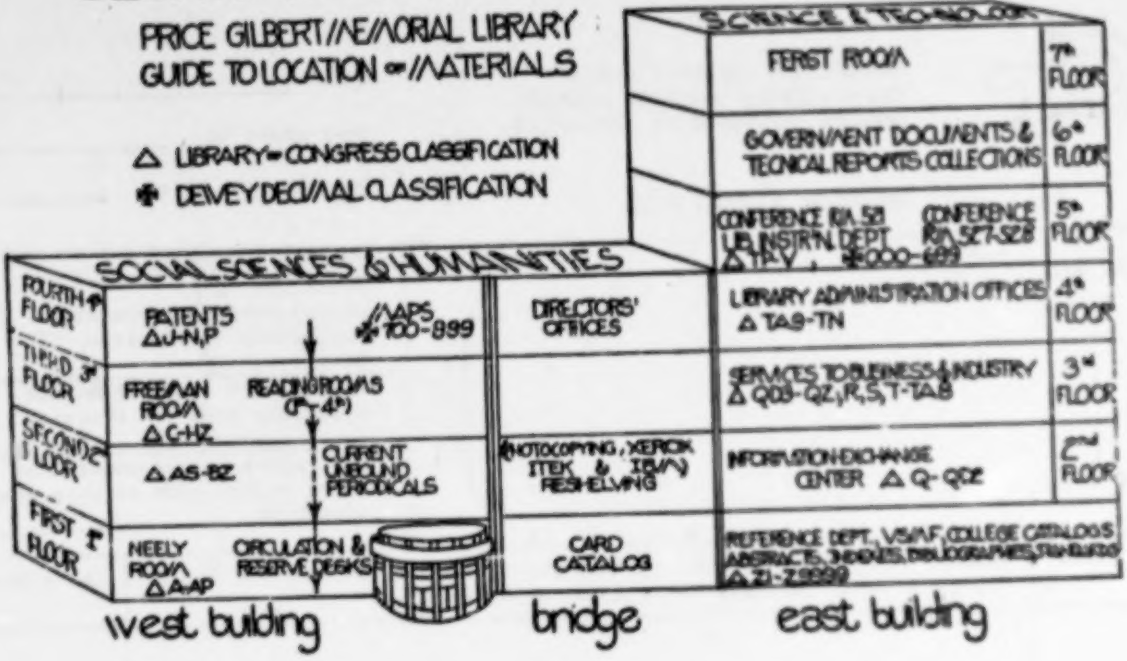
The Standards and Specifications files contain military standards and specifications, federal specifications and standards, Qualified Products List, and Joint Army-Navy Standards. Also included are the standards, specifications, recommended practices, codes, regulations, test methods, etc. of the American National Standards Institute, American Society for Testing and Materials, Society of Automotive Engineers, Institute of Electrical and Electronics Engineers, American Society of Mechanical Engineers, National Electrical Manufacturers Association, and several other such organizations. The government standards and specifications files are updated every fifteen days with complete records of revisions, replacements, changes, etc. The industry standards are updated every 60 days.

The Product Design File is compiled by cutting apart the manufacturers' catalogs and refiling (and microfilming) the pages so that similar products from different vendors are in juxtaposition on the microfilm roll.

Tying these files together is a set of elaborate, but easily usable, indexes. For instance, the Combined Product Index will lead you not only to a list of companies which manufacture identical or very similar products, but it will also indicate which industrial and governmental standards or specifications apply to that product. Other indexes will enable you to identify the manufacturers of discrete semiconductors or printed circuits to fit the specific parameters of your design requirements. Another index will identify by product U.S. sources for items designed to metric dimensions, as opposed to those converted to metric dimensions from customary measurements.

This file is available for your in-person use in the library, and enlargement copies can be made for you at $.15 per sheet. To save you a trip to the library, the searching and copying can be done for you by a member of the library staff at our regular rates for searching and photoreproduction.

GEORGIA INSTITUTE OF TECHNOLOGY



PRICE GILBERT MEMORIAL LIBRARY
GUIDE TO LOCATION OF MATERIALS

△ LIBRARY OF CONGRESS CLASSIFICATION
✤ DEWEY DECIMAL CLASSIFICATION

SCIENCE & TECHNOLOGY
FERST ROOM
7th FLOOR
GOVERNMENT DOCUMENTS & TECNICAL REPORTS COLLECTIONS
6th FLOOR
CONFERENCE RM. 58 LIB. INSTR'N. DEPT.
CONFERENCE RM. 527-528
△ TP-V , ✤000-699
5th FLOOR
LIBRARY ADMINISTRATION OFFICES
△ TA9-TN
4th FLOOR
SERVICES TO BUSINESS & INDUSTRY
△ QD3-QZ, R, S, T-TA8
3rd FLOOR
INFORMATION EXCHANGE CENTER △ Q-QD2
2nd FLOOR
REFERENCE DEPT., VSMF, COLLEGE CATALOGS ABSTRACTS, INDEXES, BIBLIOGRAPHIES, STANDARDS
△ Z1-Z9999
SOCIAL SCIENCES & HUMANITIES
FOURTH 4th FLOOR
PATENTS △J-N,P
MAPS ✤700-899
DIRECTORS' OFFICES
THIRD 3rd FLOOR
FREEMAN ROOM △ C-HZ
READING ROOMS (1st-4th)
SECOND 2nd FLOOR
△ AS-BZ
CURRENT UNBOUND PERIODICALS
PHOTOCOPYING, XEROX ITEK & IBM RESHELVING
FIRST 1st FLOOR
NEELY ROOM △ A-AP
CIRCULATION & RESERVE DESKS
CARD CATALOG
west building
bridge
east building

Dewey Classification:

000-699	5th Floor East
700-999	4th Floor West

Library of Congress Classification:

A - AP2/.M	1st Floor West (West Alcove)
AP2/.N - AP999	1st Floor West (East Alcove)
AS - AS239	2nd Floor West (West Alcove)
AS240 - AZ	2nd Floor West (East Alcove)
B - BZ	2nd Floor West (Following Current Periodicals)
C - D757/.LA	3rd Floor West (West Alcove)
D757/.LA - H1/.Y	3rd Floor West
H1/.Y - HB71/.E3	3rd Floor West (East Alcove)
HB71/.E4 - HZ	3rd Floor West
J,K,L,M,N,P	4th Floor West
Q - QD2	2nd Floor East
QD3 - QZ,R*,S,T - TA8	3rd Floor East
TA9 - TN	4th Floor East
TP - TX,U,V	5th Floor East
Z1 - Z9999	1st Floor East

* This "R" applies only to materials in the field of MEDICINE. All other R's should be disregarded when looking for a book.

BIBLIOGRAPHY	1st Floor East
BIOGRAPHIES	4th Floor West (Following the 900's)
GOVERNMENT DOCUMENTS	6th Floor East
MAPS	4th Floor West
NEWSPAPERS	1st Floor West
PATENTS	4th Floor West (West Alcove)
PERIODICALS (Unbound, Recent)	2nd Floor West
TECHNICAL REPORTS	6th Floor East
COLLEGE CATALOGS	1st Floor East
CITY PLANNING READING CENTER	3rd Floor West (Inner Wall Facing Reading Area)
VISUAL SEARCH MICROFILM FILE	1st Floor East
SERVICE TO BUSINESS AND INDUSTRY	3rd Floor East

OVERSIZE VOLUMES (Shelved On Bottom Shelves)

LIBRARY HOURS:

Monday - Thursday:	8 AM - Midnight
Friday:	8 AM - 6 PM
Saturday:	9 AM - 6 PM
Sunday:	2 PM - Midnight

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Date ____________________

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Deposit account no. ____________________

MAIL TO:

SERVICE REQUESTED:
Photocopy ☐
Enlargement from microtext ☐
Microfiche duplication ☐
Microfilm ☐

Please back order items not available from the Georgia Tech Library. ☐

I/We agree to the conditions set forth on the back of this sheet.
Signature ____________________

Leave Blank	SUBMIT ORDER IN DUPLICATE. References should include journal title, volume & date; author, title & paging of article.	Leave Blank
	1.	
	2.	
	3.	
	4.	
	5.	

OUR ORDER NO. ____________________

Handling fee(s) ____________________

Photocopies ____________________

Verification ____________________

Back order ____________________

Other ____________________

AMOUNT DUE ____________________

DATE MAILED ____________________

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GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

For use with window envelope

GEORGIA TECH LIBRARY
Information Services

General Policies

The Library provides a variety of information services to other libraries, business, industry, government agencies, and individuals, including Georgia Tech personnel acting in a private capacity.

Interlibrary loans, reference and bibliographic services and verification are free to academic and public libraries. These same services, as well as the others described here, are available to others on a fee basis.

REPRODUCTION SERVICES: These services are provided solely for research and in lieu of lending material or in place of manual copying. Fees are charged to recover the costs of services rendered; the Library is not engaged in the sale of photocopies. All responsibility for use made of photocopies is assumed by the applicant. The Library will not reproduce copyrighted materials beyond recognized "fair use" without the signed authorization of the copyright owner. Your signature on a request form will be considered an acceptance of these conditions.

PHOTOCOPYING OR MICROFILMING
$2.50 handling fee per item, plus 10¢ per page

ENLARGEMENTS (FROM MICROTEXT)
$2.50 handling fee per item, plus 15¢ per page

MICROFICHE DUPLICATIONS
$2.50 handling fee per item, plus 35¢ per fiche

BACK ORDERS: $5.00 minimum per item plus costs to the Library. We will endeavor to obtain photocopies of items not held by Georgia Tech if so instructed. It is our responsibility to provide complete bibliographic information to another source. Therefore, it will expedite your requests and avoid verification charges if you include all the information you have when the request is first submitted. It is also important to include a verification from a standard source (Chemical Abstracts, Biological Abstracts, etc.) when known. A surcharge may be necessary for items extremely difficult to obtain. This surcharge will vary and will be at the discretion of the professional staff.

VERIFICATION: $5.00 - $10.00 per item depending on complexity. Establishment of correct information leading to completion of a request can involve considerable professional staff time. If we can supply an item the verification fee is added to the other charges. If we cannot supply an item any information found is passed on to the patron and only the verification fee is charged.

INTERLIBRARY LOANS: $5.00 per item. To libraries only. Individuals or companies without libraries should consult their local public libraries.

LITERATURE SEARCHING: Literature searches can be retrospective or current awareness, or both. Manual and on-line computer searching can also be combined, as needed, to cover the topic and time span of interest.

MANUAL: $15.00 per hour plus reproduction and handling costs, not to exceed five hours without further consultation or authorization.

COMPUTERIZED: On-line costs vary with the data bases being searched. Over 50 data bases are available. Please inquire about rates for subjects of interest to you.

REFERENCE/BIBLIOGRAPHIC SERVICES: $15.00 per hour (less than one hour $10.00) plus copying charges incurred. Quick answer questions are usually handled without charge. Fees are at the discretion of the librarian performing the service and are based on professional time and judgment.

TRANSLATIONS: $5.00 per item for searching for existing translations. If none can be found a custom translation can be provided for a $5.00 handling fee plus costs to the Library.

GEORGIA TECH LIBRARY MICROFICHE CATALOG: Basic catalog plus supplements. Subscription. Please inquire.

RUSH SERVICE AND TELEPHONE REQUESTS: Rush service is available at $10.00 per item (including handling fees) plus copying charges or interlibrary loan charge. 50% surcharge for literature searches. For telephone requests there is a transcription fee of $2.50 per item plus regular handling fee and copying charges or interlibrary loan charge. If a telephone request is also a Rush Service request, Rush Service fees are also charged. These services are available (without charge) in emergency situations to academic and public libraries.

SHIPPING: The Library endeavors to fill all orders as promptly as possible. Photocopied material will normally be sent by first class mail at no extra charge to patrons in the U.S. and Canada. Material to other countries will normally be sent by air mail printed matter and cost of postage will be added. We are not responsible for loss or damage in transit.

PAYMENT: DO NOT PREPAY REQUESTS. Exact fees cannot always be determined in advance and are subject to change without notice. DO NOT SEND REMITTANCE UNTIL BILLED. Billing can be by monthly invoices or deposit accounts. Unless a deposit account has been established, invoices will be sent. If you wish to establish a deposit account (to avoid issuing monthly checks) please write to the Library for application forms and explanatory material.

Rev. 12/1/76

Appendix 10

NEED A SEARCH OF THE AIR POLLUTION LITERATURE?

* * *

NEED A COPY OF AN AIR POLLUTION PUBLICATION?

* * *

HERE'S HOW TO GET IT - QUICKLY AND EASILY AND FREE

U.S. Environmental Protection Agency
Manpower and Technical Information Branch
Research Triangle Park
North Carolina 27711
Commercial (919) 549-8411
FTS 629-2460

POSTAGE AND FEES PAID
ENVIRONMENTAL PROTECTION AGENCY
EPA-335
FIRST CLASS MAIL

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
LIBRARY
Research Triangle Park
North Carolina 27711
MD-35

OFFICIAL BUSINESS

FREE AIR POLLUTION LITERATURE SERVICES

Who Gets Free Service?

Employees of the following organizations may receive certain free services:

- US EPA organizations
- Current contractors and grantees of US EPA when endorsed by their US EPA project officer
- State and local governmental agencies (U.S. and foreign)
- Non-profit environmental and citizens groups (U.S. and foreign)

How Can A Literature Search Help You?

- Benefit from literature on previous work
- Reduce duplication of previous work
- Settle questions of fact
- Answer tough questions

What Is The APTIC File?

The APTIC file (Air Pollution Technical Information Center) is a data base of more than 80,000 citations which are selected, indexed, and abstracted in a manner relevant to the needs of the national air pollution control commuity. EPA, in recent years, maintained the APTIC file as a comprehensive file, adding 850 items per month. The new, reduced rate is 333 items per month. These items are those which would not ordinarily find their way into other commercial literature systems.

What Is A Computerized Literature Search?

A computerized literature search is a search of a large number of publications using index terms and the speed and storage capacity of a computer. The computer may display or print out any of the retrieved information, e.g., identification numbers, bibliographic citations, abstracts, etc. In addition to the APTIC file, many other major files may also be searched by computer.

What Air Pollution Literature Searches are Available To You?

You may get a computerized search of millions of literature citations in:

1) EPA's Air Pollution Technical Information Center (APTIC) file, and
2) Other major files including:

Chemical Abstracts (CHEMCON)
Biological Abstracts (BIOSIS)
Engineering Index (COMPENDEX)
Pollution Abstracts
Environment Abstracts (ENVIROLINE)
Dissertation Abstracts
NTIS

TOXLINE
MEDLINE
Predicasts
ISI Scisearch
SSIE
Metal Abstracts
Agricola (formerly CAIN)
Many others

AVAILABLE TO CERTAIN PARTIES

How Can You Get A Search Made Of The Air Pollution Literature?

Call or write to the appropriate library listed below. If you write, include your telephone number. Describe the subject matter that you seek. You may specify any data bases to be searched. The library will search the APTIC file and other files and send listings of the retrieved literature citations, in many cases with abstracts, to you. Depending on the postal service, you may receive this within 3 days.

U.S. Environmental Protection Agency
Library (MD-35)
Research Triangle Park, N.C. 27711
Commercial Phone - (919) 549-8411 Ext. 2777 or 2794
FTS Phone - 629-2779

U.S. Environmental Protection Agency employees only may also request literature searches from the following two EPA libraries.

U.S. Environmental Protection Agency
Library
Cincinnati, Ohio 45268
FTS Phone - 684-7701

EPA Library (PM-213)
Room M2404
401 M Street, SW
Washington, D.C. 20460
FTS Phone - 755-0386

How Can You Get A Copy Of An EPA Air Pollution Publication?

Free copies of US EPA publications are available free of charge, so long as supplies last, from the US EPA library in Research Triangle Park, N.C. (address and phone above). When supplies are exhausted, you will be referred to the U.S. Government Printing Office or the National Technical Information Service.

How Can You Get A Copy Of An Article In The APTIC File?

US EPA employees can get a hard copy or microfiche copy of any article in the APTIC file.

Other parties eligible for free service can get a microfiche copy of any article in the APTIC file.

Anyone can get a hard copy or microfiche copy of any article in the APTIC file when the article is not available in the open literature.

Write or phone requests to the US EPA Library in Research Triangle Park, N.C. (address and phones above).

WHAT ABOUT PEOPLE WHO ARE NOT ELIGIBLE FOR FREE SERVICES?

Getting Air Pollution Literature Searches

Anyone can get a literature search made for a small fee. EPA makes the APTIC file publicly accessible to everyone on the on-line computer system of the Lockheed Corp. under terms of a contract with the Franklin Institute. Lockheed, and others, have similarly mounted many other data bases on their computer systems. If you have access to an appropriate computer terminal and a telephone, you may search the millions of citations in these data bases. Anyone may make separate arrangements with the on-line services including:

- Lockheed Palo Alto Research Laboratory
  3251 Hanover Street
  Palo Alto, California 94304
  Phone - (800) 227-1960

- System Development Corporation (SDC)
  2500 Colorado Avenue
  Santa Monica, California 90406
  Phone - (800) 421-7229

- Bibliographic Retrieval Services, Inc. (BRS)
  1462 Erie Boulevard
  Schenectady, New York 12305
  Phone - (518) 374-5011

Getting Copies Of EPA Publications On Air Pollution

Anyone can get a copy of an EPA air pollution publication by writing to the US EPA Library (MD-35) at Research Triangle Park, N.C. 27711. Copies will be provided as long as supplies last. When supplies are exhausted, copies may be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22161.

Getting Copies Of Articles In The APTIC File

Anyone can get a copy of any item in the APTIC file which is not available in the open literature. Requests should be addressed to the US EPA Library (MD-35) at Research Triangle Park, N.C. 27711 Phone - (919) 549-8411 Ext. 2777 or 2794.

Carolina Library Services
1404 Brigham Rd.
Chapel Hill, N.C. 27514

Serving Your
Information
Needs

Carolina
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Services

A
Reliable
Source

1404 Brigham Rd.
Chapel Hill, N.C.
27514

Appendix 11

We at Carolina Library Services can be your personal librarians. We offer a unique service that enables you to get customized answers on any subject for which published material is available. We free you and your staff for more productive work.

When you need
Information
call
Carolina Library
Services
919-929-4870

Services:

1) **Questions answered—** Gathering and delivering information on any and all subjects.
2) **Document delivery** — Purchase, photocopy or loan.
3) **Preparation of bibliographies**
4) **Literature searches**
5) **Current awareness** — Monthly updatings of titles in your field.
6) **Indexing**
7) **Library consultants** — We will organize and index your materials or set up a library for you.

What Carolina Library Services offer a conventional Library doesn't:

1) **Resources** of all libraries in area (UNC, DUKE, NCSU) and libraries throughout the country (Library of Congress, Nat'l Library of Medicine, John Crerar Library).
2) **Mobility** — Specialists will visit library collections in area to search for information.
3) **Speed** — No need to go to libraries yourself, or wait for interlibrary loan.
4) **Savings** — a) Saves time of scientists and businessmen b) No need to maintain expensive collection duplicated elsewhere.

CAROLINA LIBRARY SERVICES
1404 Brigham Rd.
Chapel Hill, N.C. 27514
919-929-4870

Appendix 12

RATES

DOCUMENT DELIVERY

Photocopies of articles, documents, etc. from CLS staffed sources.*	$3.00/item + 15¢/page
Purchases and photocopies from other sources	$5.00/item + costs
Rush (24-hour service)	$2.00 extra

RESEARCH SERVICE

Bibliographies	$15.00/hour + costs ($10.00 for students) Minimum 2 hours
Consultation for organizing or indexing materials or data	$17.50/hour
Current Awareness service	Quote on request

Note: Postage, toll calls and other expenses are charged back to the customer at cost.

Statments or bills are sent on a monthly basis. Deposit accounts are encouraged.

*CLS staffed sources are NCSU Hill Library, Duke Perkins, Duke Medical, UNC Wilson, UNC Law, UNC Health Sciences Library and EPA/RTP.

CAROLINA LIBRARY SERVICES specializes in ENVIRONMENTAL LAW and REGULATIONS and difficult to obtain EPA DOCUMENTS. Let us help you.

DRAFT - 12/15/77

APPENDIX 13

EPA/NRC Second Memorandum of Understanding

Approximately two years have passed since the EPA/NRC Second Memorandum of Understanding agreement went into effect, thus it is an appropriate time to reflect experiences under the agreement to date. Eleven nuclear power generating plants have been implemented under the agreement and on six other cases, cooperation has been instigated or carried out to varying degrees. Of the latter cases, initial licensing was already under way or involved permitee State cases.

Experience to date has had a high degree of success. Such performance has been due to the cooperative attitude of EPA/NRC and permit State agencies in recognizing that the parallel performance of the NEPA, FWPCA and even State review are very much to the advantage of the agencies, the public and the applicant. EPA has been informed and afforded the opportunity to take part in site visits, technical conferences and other meetings having a bearing on water quality or related issues. EPA has also been given the opportunity to observe at meetings with applicants and parties to NRC proceedings where environmental issues and other areas of EPA jurisdiction are discussed. NRC supplies copies of all comments on the DEIS to EPA as soon as they are received. EPA participates with NRC in responding to those comments upon water quality matters and other areas of EPA jurisdiction and related expertise (i.e., solid waste, noise, environmental radiation and air programs).

The coordination between agencies to date has generally extended the previous NRC schedule, however, the benefits derived for the applicant and the public - considering the sequential evaluation of environmental impacts, new information effecting previous agency decisions and potential of opposing positions by the various concerned agencies certainly appears to justify the coordination. There has been difficulty on "old sources" in the NRC operating license stage environmental review or changes in NPDES conditions on operating plants. Although the Second Memorandum covers "new sources" because of EPA's responsibility to prepare an Environmental Statement, extending the cooperative interchange of status, new information coordination prior to actions taken by either agency or the appropriate state can be extremely helpful.

It is believed that joint hearings will bring considerable benefits both to the Federal and State licensing process, and avoid costly duplication of effort and lead to the development of better and more complete records, and consequently, to more informed decisions. Joint hearings should also enhance the opportunity for effective public participation in the decisional processes of both agencies. The experience that both agencies have gained operating under the agreement will be very beneficial in implementing the new CEQ regulations scheduled to be released in early 1978, and in working with the Department of Energy (DOE).

APPENDIX 14

federal register

FRIDAY, JUNE 9, 1978
PART II

THE NATIONAL ARCHIVES OF THE UNITED STATES • 1934 •

COUNCIL ON ENVIRONMENTAL QUALITY

■

NATIONAL ENVIRONMENTAL POLICY ACT

Proposed Regulations for Implementing Procedural Provisions

[3125-01]

COUNCIL ON ENVIRONMENTAL QUALITY

[40 CFR Parts 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508]

NATIONAL ENVIRONMENTAL POLICY ACT—REGULATIONS

Proposed Implementation of Procedural Provisions

MAY 31, 1978.

AGENCY: Council on Environmental Quality, Executive Office of the President.

ACTION: Proposed regulations.

SUMMARY: These proposed regulations implementing procedural provisions of the National Environmental Policy Act are submitted for public comment. These regulations would provide Federal agencies with uniform procedures for implementing the law. The regulations would accomplish three principal aims: to reduce paperwork, to reduce delays, and to produce better decisions.

DATES: Comments must be received by August 11, 1978.

ADDRESSES: Comments should be addressed to: Nicholas C. Yost, General Counsel, Attention: NEPA Comments, Council on Environmental Quality, 722 Jackson Place NW., Washington, D.C. 20006.

FOR FURTHER INFORMATION CONTACT:

Nicholas C. Yost, General Council on Environmental Quality (address same as above), 202-633-7032.

SUPPLEMENTARY INFORMATION:

1. PURPOSE

We are publishing for public review draft regulations to implement the National Environmental Policy Act. Their purpose is to provide all Federal agencies with an efficient, uniform procedure for translating the law into practical action. We expect the new regulations to accomplish three principal aims: To reduce paperwork, to reduce delays, and at the same time to produce better decisions, thereby better accomplishing the law's objective, which is to protect and enhance the quality of the human environment.

These regulations replace the Guidelines issued by previous Councils, under Executive Order 11514 (1970), and apply more broadly. The Guidelines assist Federal agencies in carrying out NEPA's most conspicuous requirement, the preparation of environmental impact statements (EISs). These regulations were developed in response to Executive Order 11991 issued by President Carter in 1977, and implement "the procedural provisions of the Act." They address all nine subdivisions of Section 102(2) of the Act, rather than just the EIS provision covered by the Guidelines, and they carry out the broad purposes and spirit of the Act.

President Carter instructed us that the regulations should be:

> * * * designed to make the environmental impact statement more useful to decisionmakers and the public; and to reduce paperwork and the accumulation of extraneous background data, in order to emphasize the need to focus on real environmental issues and alternatives.

The President has also signed Executive Order 12044, dealing with regulatory reform. It is our intention that that Order and these NEPA regulations be read together and implemented consistently.

2. SUMMARY OF CHANGES MADE BY THE REGULATIONS

Following this mandate in developing the new regulations, we have kept in mind the threefold objective of less paperwork, less delay, and better decisions.

A. REDUCING PAPERWORK

The measures to reduce paperwork are listed in sec. 1500.4 of the regulations. Neither NEPA nor these regulations impose paperwork requirements on the public. These regulations reduce such requirements on agencies of government.

i. *Reducing the length of environmental impact statements.* Agencies are directed to write concise EISs, which shall normally be less than 150 pages, or, for proposals of unusual scope and complexity, 300 pages.

ii. *Emphasize options among alternatives.* The regulations stress that the environmental analysis is to concentrate on alternatives, which are the heart of the matter; to treat peripheral matters briefly; and to avoid accumulating masses of background data which tend to obscure the important issues.

iii. *Using an early "scoping" process to determine what the important issues are.* To assist agencies in deciding what the central issues are, how long the EIS shall be, and how the responsibility for the EIS will be allocated among the lead agency and cooperating agencies, a new "scoping" procedure is established. Scoping meetings are to be held as early in the NEPA process as possible—in most cases, shortly after the decision to prepare an EIS—and shall be integrated with other planning.

iv. *Writing in plain language.* The regulations strongly advocate writing in plain, direct language.

v. *Following a clear format.* The regulations spell out a standard format intended to eliminate repetitive discussion, stress the major conclusions, highlight the areas of controversy, and focus on the issues to be resolved.

vi. *Requiring summaries of environmental impact statements* to make the document more usable by more people.

vii. *Eliminating duplication.* To eliminate duplication, the regulations provide for Federal agencies to prepare EISs jointly with state and local units of government which have "little NEPA" requirements. They also permit a Federal agency to adopt another agency's EIS.

viii. *Consistent terminology.* The regulations provide a uniform terminology for the implementation of NEPA. For instance, the CEQ requirement for an environmental assessment will replace the following (nonexhaustive) list of comparable existing agency procedures: "survey" (Corps of Engineers), "environmental analysis" (Forest Service), "initial assessment" (Transportation), "normal or special clearance" (HUD), "environmental analysis report" (Interior), and "marginal impact statement" (HEW).)

ix. *Reducing paperwork requirements.* The regulations will reduce reporting paperwork requirements as summarized below. The existing Guidelines issued under Executive Order 11514 cover section 102(2)(C) of NEPA (environmental impact statements), and the new CEQ regulations cover sections 102(2) (A) through (I). The regulations replace not only the requirements of the Guidelines concerning environmental impact statements, but also replace more than 70 different sets of existing agency regulations, although each agency will issue its own implementing procedures to explain how these regulations apply to its particular programs.

Existing Requirements (Applicable Guidelines sections are noted.)	New Requirements (Applicable regulations sections are noted.)
Assessment (optional under Guidelines on a case-by-case basis; currently required, however by most major agencies in practice or in procedures) 1500.6.	*Assessment* (limited requirement: not required where there would not be environmental effects or where an EIS would normally be required) 1501.3, .4.
Notice of intent to prepare impact statement 1500.6.	*Notice of intent* to prepare EIS and commence scoping process 1501.7
Quarterly list of notices of intent 1500.6.	Requirement abolished.
Negative determination (decision not to prepare impact statement) 1500.6.	*Finding of no significant impact* 1501.4.
Quarterly list of negative determinations 1500.6.	Requirement abolished.
Draft EIS 1500.7	*Draft EIS* 1502.9
Final EIS 1500.6, .10	*Final EIS* 1502.9
EISs on legislative reports ("agency reports on legislation initiated elsewhere") 1500.5(a)(1).	Requirement abolished.
Agency report to CEQ on implementation experience 1500.14(b).	Do.

Existing Requirements (Applicable Guidelines sections are noted.)	New Requirements (Applicable regulations sections are noted.)
Agency report to CEQ on substantive guidance 1500.6(c), .14.	Do.
Record of decision (no Guideline provision but required by many agencies' own procedures and in a wide range of cases generally under the Administrative Procedure Act and OMB Circular A-95, Part I, sec. 6(c) and (d), Part II, sec. 5(b)(4)).	*Record of decision* (brief explanation of decision EIS has been prepared; no circulation requirement) 1505.2.

B. REDUCING DELAY

The measures to reduce delay are listed in § 1500.5 of the regulations.

i. *Time limits on the NEPA process.* The regulations encourage lead agencies to set time limits on the NEPA process and require that they be set when requested by an applicant.

ii. *Integrating EIS requirements with other environmental review requirements.* Often the NEPA process and the requirements of other laws proceed separately, causing delay. The regulations provide for all agencies with jurisdiction over the project to cooperate so that all reviews may be conducted simultaneously.

iii. *Integrating the NEPA process into early planning.* If environmental review is tacked on to the end of the planning process, then the process is prolonged, or else the EIS is written to justify a decision that has already been made, and genuine consideration may not be given to environmental factors.

iv. *Emphasizing interagency cooperation before the EIS is drafted.* The regulations emphasize that other agencies should begin cooperating with the lead agency before the EIS is prepared in order to encourage early resolution of differences. By having the affected agencies cooperate early in preparing a draft EIS, we hope both to produce a better draft and to reduce delays caused by unnecessarily late criticism.

v. *Swift and fair resolution of lead agency disputes.* When agencies differ as to who shall take the lead in preparing an EIS or none is willing to take the lead, the regulations provide a means for prompt resolution of the dispute.

vi. *Prepare EISs on programs and not repeat the same material in project specific EISs.* Material common to many actions may be covered in a broad EIS, and then through "tiering" may be incorporated by reference rather than reiterated in each subsequent EIS.

vii. *Legal delays.* The regulations provide that litigation should come at the end rather than in the middle of the process.

viii. *Accelerated procedures for legislative proposals.* The regulations provide accelerated simplified procedures for environmental analysis of legislative proposals, to fit better with Congressional schedules.

C. BETTER DECISIONS

Most of the features described above will help to improve decisionmaking. This, of course, is the fundamental purpose of the NEPA process, the end to which the EIS is a means. Section 101 of NEPA sets forth the substantive requirements of the Act, the policy to be implemented by the "action-forcing" procedures of Section 102. These procedures must be tied to their intended purpose, otherwise they are indeed useless paper work and wasted time. A central purpose of these regulations is to tie means to ends.

i. *Securing more accurate, professional documents.* The regulations insist upon accurate documents as the basis for sound decisions. The documents should draw upon all the appropriate disciplines from the natural and social sciences, plus the environmental design arts. The lead agency is responsible for the professional integrity of reports, and care should be taken to keep any possible bias from data prepared by applicants out of the environmental analysis. A list of people who helped prepare documents, and their professonal qualifications, should be included in the EIS.

ii. *Recording in the decision how the EIS was used.* The new regulations require agencies to point out in the EIS analysis of alternatives which one is preferable on environmental grounds—including the often-overlooked alternative of no action at all. (However, if "no action" is identified as environmentally preferable, a second-best alternative must also be pointed out.)

Agencies must also produce a concise public record, indicating how the EIS was used in arriving at the decision. If the EIS is disregarded, it really is useless paperwork. It only contributes if it is used by the decisionmaker and the pubic. The record must state what the final decision was; whether the environmentally preferable alternative was selected; and if not, what considerations of national policy led to another choice.

iii. *Insure follow-up of agency decisions.* When an agency requires environmentally protective mitigation measures in its decision, the regulations provide for means to ensure that these measures are monitored and implemented.

Taken altogether, the regulations aim for a streamlined process, but one which as a broader purpose than the Guidelines they replace. The Guidelines emphasized a single document, the EIS, while the regulations emphasize the entire NEPA process, from early planning through assessment and EIS preparation through provisions for follow-up. They attempt to gear means to ends—to insure that the action-forcing procedures of sec. 102(2) of NEPA are used by agencies to fulfill the requirements of the Congressionally mandated policy set out in sec. 101 of the Act. Furthermore, the regulations are uniform, applying in the same way to all federal agencies, although each agency will develop its own procedures for implementing the regulations. Our attempt has been with these new regulations to carry out as faithfully as possible the original intent of Congress in enacting NEPA.

3. BACKGROUND

We have been greatly assisted in our task by the hundreds of people who responded to our call for suggestions on how to make the NEPA process work better. In public hearings which we held in June 1977, we invited testimony from a broad array of public officials, organizations, and private citizens, affirmatively involving NEPA's critics as well as its friends.

Among those represented were the U.S. Chamber of Commerce, which coordinated testimony from business; the Building and Construction Trades Department of the AFL-CIO, for labor; the National Conference of State Legislatures, for state and local governments; the Natural Resources Defense Council, for environmental groups. Scientists, scholars, and the general public were there.

There was extraordinary consensus among these diverse witnesses. All, without exception, expressed the view that NEPA benefited the public. Equally widely shared was the view that the process had become needlessly cumbersome and should be trimmed down. Witness after witness said that the length and detail of EIS's made it extremely difficult to distinguish the important from the trivial. The degree of unanimity about the good and bad points of the NEPA process was such that at one point an official spokesman for the oil industry rose to say that he adopted in its entirety the presentation of the President of the Sierra Club.

After the hearings we culled the record to organize both the problems and the solutions proposed by witnesses into a 38-page "NEPA Hearing Questionnaire." The questionnaire was sent to all witnesses, every state governor, all federal agencies, and everyone who responded to an invitation in the FEDERAL REGISTER. We received more than 300 replies, from a broad cross section of groups and individuals. By the comments we received from respondents we gauged our success in faithfully presenting the results of the public hearings. One commenter, an electric utility official, said that for the first time in his life he knew the government was listening to him, because all the suggestions made at the hearing turned up in the questionnaire. We then collated all the responses for use in drafting the regulations.

We also met with every agency of the federal government to discuss what should be in the regulations. Guided by these extensive interactions with government agencies and the public, we prepared draft regulations which were circulated for comment to all federal agencies in December 1977. We then studied agency comments in detail, and consulted numerous federal officials with special experience in implementing the Act. Informal redrafts were circulated to the agencies with greatest experience in preparing environgmental impact statements. Improvements from our December 12 draft reflect this process.

At the same time that federal agencies were reviewing the early draft, we continued to meet with, listen to, and brief members of the public, including representatives of business, labor, state and local governments, environmental groups and others. We also considered seriously and proposed in our regulations virtually every major recommendation made by the Commission on Federal Paperwork and the General Accounting Office in their recent studies on the environmental impact statement process. The studies by these two independent bodies were among the most detailed and informed reviews of the paperwork abuses of the impact statement process. In many cases, such as streamlining intergovernmental coordination, the proposed regulations go further than their recommendations.

4. Exclusion

It should be noted that the issue of application of NEPA to environmental effects occurring outside the United States is the subject of continued discussions within the government and is not addressed in these regulations. Affected agencies continue to hold different views on this issue. Nothing in these regulations should be construed as asserting that NEPA either does or does not apply in this situation.

5. Analysis and Assessment of The Regulations

Since Executive Order 12044 became effective on March 23, 1978, after the Council's draft NEPA regulations had completed interagency review, the extent to which Executive Order 12044 applies to the Council's nearly completed process of developing NEPA regulations is not clear. Nevertheless, the requirements of Executive Order 12044 have been undertaken to the fullest extent possible. The analyses required by sections 2 (b), (c), (d), and 3(b), to the extent they may apply to the Council's proposed NEPA regulations, are available on request.

The Council has prepared a special environmental assessment of these regulations to illustrate the analysis that is appropriate under NEPA. The assessment discusses alternative regulatory approaches. Some regulations lend themselves to an analysis of their environmental impacts, particularly regulations with substantive requirements of those which apply to a physical setting. Although the Council obviously believes that its regulations will work to improve environmental quality, the impacts of procedural regulations of this kind are not susceptible to detailed analysis beyond that set out in the assessment.

Both the analyses under Executive Order 12044 and the assessment described above are available on request. Comments may be made on both documents in the same manner and by the same time as the comments on the regulations.

6. Additional Subjects for Comments

Several issues have been brought to our attention as appropriate subjects to be covered in the regulations. They are difficult issues on which we particularly solicit thoughtful views.

a. *Data bank.* Many were intrigued by the idea of a national data bank in which information developed in one EIS would be stored and become available for use in a subsequent EIS. Public comment on the questionnaire led us to conclude, reluctantly, that the idea is impractical. In practice most environmental information is specific to given areas or activities. To assemble a nationwide data bank would demand financial and other resources that are simply beyond the benefits that may be achieved. We have not included a data bank in these regulations but have instead tried to insure that in the scoping process the preparers of one EIS become aware of all related EISs so they can make use of the information in them. We would, however, welcome comment on this subject.

b. *Encouragement for agencies to fund public comments on EISs when an important viewpoint would otherwise not be presented.* The Council has been urged to provide either encouragement or direction to agencies, as part of their routine EIS preparation, to provide funds to responsible groups for public comments when important viewpoints would not otherwise be presented. Although we are acutely aware of the importance of comments to the success of the EIS process, we have not included such a provision. We would welcome comment on this subject also.

Conclusion

We look forward to your comments and help. To repeat, comments should be sent by August 11, 1978, to Nicholas C. Yost, General Counsel, Attention: NEPA Comments, Council on Environmental Quality, 722 Jackson Place NW., Washington, D.C. 20006.

Thank you for cooperating with us.

Charles Warren,
Chairman.

Title 40 Chapter V is proposed to be amended by revising Part 1500 and by adding Parts 1501 through 1508 to read as follows:

PART 1500—PURPOSE, POLICY, AND MANDATE

Sec.
1500.1 Purpose.
1500.2 Policy.
1500.3 Mandate.
1500.4 Reducing paperwork.
1500.5 Reducing delay.
1500.6 Agency authority.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), section 309 of the Clean Air Act, as amended (42 U.S.C. 1857h-7), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970 as amended by Executive Order 11991, May 24, 1977).

§ 1500.1 Purpose.

(a) The National Environmental Policy Act (NEPA) is our basic national charter for protection of the environment. It establishes policy, sets goals (section 101), and provides means (section 102) for carrying out the policy. Section 102(2) contains "action-forcing" provisions to make sure that federal agencies act according to the letter and spirit of the Act. The regulations that follow implement Section 102(2). Their purpose is to tell federal agencies what they must do to comply with the procedures and achieve the goals of the Act. The President, the federal agencies, and the courts share responsibility for enforcing the Act so as to achieve the substantive requirements of section 101.

(b) NEPA procedures must insure that [redacted] ~~decisions are made and before actions are taken~~. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. Most important, NEPA documents ~~that concentrate on the issues that are truly~~ [redacted] to the action in question, rather than amassing needless detail.

(c) Ultimately, of course, ~~it is not better documents but better decisions that count~~. [redacted]

[redacted] The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment. These regulations provide the direction to achieve this purpose.

§ 1500.2 Policy.

Federal agencies shall to the fullest extent possible:

(a) Interpret and administer the policies, regulations, and public laws of the United States in accordance with the policies set forth in the Act and in these regulations.

(b) Implement procedures to make the NEPA process more useful to decisionmakers and the public; to reduce paperwork and the accumulation of extraneous background data; and to emphasize real environmental [redacted] and alternatives. Environmental impact statements shall be concise, clear, and to the point, and shall be supported by evidence that agencies have made the necessary environmental analyses.

(c) [redacted] the requirements of NEPA with other planning and environmental review procedures required by law or by agency practice [redacted]

(d) Encourage and facilitate public involvement in decisions which affect the quality of the human environment.

(e) Use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.

(f) Use all practicable means, consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.

§ 1500.3 Mandate.

Parts 1500-1508 of this Title provide regulations applicable to and binding on all Federal agencies for implementing the procedural provisions of the National Environmental Policy Act of 1969, as amended (Pub. L. 91-190, 42 U.S.C. 4321 et seq.) (NEPA or the Act) except where compliance would be inconsistent with other statutory requirements. These regulations are issued pursuant to NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), Section 309 of the Clean Air Act, as amended (42 U.S.C. 1857h-7), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May 24, 1977). These regulations, unlike the predecessor guidelines, are not confined to Sec. 102(2)(C) (environmental impact statements). The regulations apply to the whole of section 102(2). The provisions of the Act and of these regulations must be read together as a whole in order to comply with the spirit and letter of the law. It is the Council's intention that judicial review of agency compliance with these regulations not occur before an agency has filed the final environmental impact statement, or has made a finding of no significant impact, or takes action that will result in irreparable injury.

§ 1500.4 Reducing paperwork.

Agencies shall reduce excess paperwork by:

(a) Reducing the length of environmental impact statements (§ 1502.2(c)), by means such as setting appropriate page limits (§ 1501.7(b)(1) and 1502.7).

(b) Preparing analytic rather than encyclopedic environmental impact statements (§ 1502.2(a)).

(c) Discussing only briefly issues other than significant ones (§ 1502.2(b)).

(d) Writing environmental impact statements in plain language (§ 1502.8).

(e) Following a clear format for environmental impact statements (§ 1502.10).

(f) Emphasizing the portions of the environmental impact statement that are useful to decisionmakers and the public (§§ 1502.14 and 1502.15) and reducing emphasis on background material (§ 1502.16).

(g) Using the scoping process not only to identify significant environmental issues deserving of study, but also to deemphasize insignificant issues, narrowing the scope of the environmental impact statement process accordingly (§ 1501.7).

(h) Summarizing the environmental impact statement (§ 1502.12) and circulating the summary instead of the entire environmental impact statement if the latter is unusually long (§ 1502.19).

(i) Using program, policy, or plan environmental impact statements and tiering from statements of broad scope to those of narrower scope to eliminate repetitive discussions of the same issues (§§ 1502.4 and 1502.20).

(j) Incorporating by reference (§ 1502.21).

(k) Integrating NEPA requirements with other environmental review and consultation requirements (§ 1502.25).

(l) Requiring comments to be as specific as possible (§ 1503.3).

(m) Attaching and circulating only changes to the draft environmental impact statement, rather than rewriting and circulating the entire statement when changes are minor (§ 1503.4(b)).

(n) Eliminating duplication with State and local procedures by providing for joint preparation (§ 1506.2) and with other Federal procedures by providing for one agency's adoption of appropriate environmental documents prepared by another agency (§ 1506.3).

(o) Combining environmental documents with other documents (§ 1506.4).

(p) Using categorical exclusions to exclude from environmental impact statement requirements categories of actions which do not individually or cumulatively have a significant effect on the human environment (§ 1508.4).

(q) Using a finding of no significant impact and not preparing an environmental impact statement when an action not otherwise excluded will not have a significant effect on the human environment (§ 1508.13).

§ 1500.5 Reducing delay.

Agencies shall reduce delay by:

(a) Integrating the NEPA process into early planning (§ 1501.2).

(b) Emphasizing interagency cooperation before the environmental impact statement is prepared rather than adversary comments on a completed document (§ 1501.6).

(c) Insuring the swift and fair resolution of lead agency disputes (§ 1501.5).

(d) Using the scoping process for an early identification of what are and what are not the real issues (§ 1501.7).

(e) Establishing appropriate time limits for the environmental impact statement process (§§ 1501.7(b)(2) and 1501.8).

(f) Preparing environmental impact statements early in the process (§ 1502.5).

(g) Integrating NEPA requirements with other environmental review and consultation requirements §§ 1502.25).

(h) Eliminating duplication with State and local procedures by providing for joint preparation (§ 1506.2) and with other Federal procedures by providing for one agency's adoption of appropriate environmental documents prepared by another agency (§ 1506.3).

(i) Combining environmental documents with other documents (§ 1506.4).

(j) Using accelerated procedures for proposals for legislation (§ 1506.8).

(k) Using categorical exclusions to exclude from environmental impact statement requirements categories of actions which do not individually or cumulatively have a significant effect on the human environment (§ 1508.4).

(l) Using a finding of no significant impact and not preparing an environmental impact statement when an action not otherwise excluded will not have a significant effect on the human environment (§ 1508.13).

§ 1500.6 Agency authority.

Each agency shall interpret the provisions of the Act as a supplement to its existing authority and as a mandate to view traditional policies and missions in the light of the Act's national environmental objectives. Agencies shall review their policies, procedures, and regulations accordingly and revise them as necessary to ensure full compliance with the purposes and provisions of the Act. The phrase "to the fullest extent possible" in section 102 means that each agency of the Federal Government shall comply with that section unless existing law applicable to the agency's operations expressly prohibits or makes compliance impossible.

PART 1501—NEPA AND AGENCY PLANNING

Sec.
1501.1 Purpose.
1501.2 Apply NEPA early in process.
1501.3 When to prepare an environmental assessment.
1501.4 Whether to prepare an environmental impact statement.
1501.5 Lead agencies.
1501.6 Cooperating agencies.
1501.7 Scoping.
1501.8 Time limits.

AUTHORITY: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), Section 309 of the Clean Air Act, as amended (42 U.S.C. 1857h-7), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May, 24, 1977).

§ 1501.1 Purpose.

The purposes of this part include:

(a) Integrating the NEPA process into early planning to insure appropriate consideration of NEPA's policies and to eliminate delay.

(b) Emphasizing cooperative consultation among agencies before the environmental impact statement is prepared rather than adversary comments on a completed document.

(c) Providing for the swift and fair resolution of lead agency disputes.

(d) Identifying at an early stage the significant environmental issues deserving of study and deemphasizing insignificant issues, narrowing the scope of the environmental impact statement accordingly.

(e) Providing a mechanism for putting appropriate time limits on the environmental impact statement process.

§ 1501.2 Apply NEPA early in process.

Agencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts. Each agency shall:

(a) As specified by § 1507.2 comply with the mandate of sec. 102(2)(A) to "utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment."

(b) Identify environmental effects and values in adequate detail so they can be compared to economic and technical analyses. Environmental documents and appropriate analyses shall be circulated and reviewed at the same time as other planning documents.

(c) Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources as provided by sec. 102(2)(E) of the Act.

(d) Provide for cases where actions are planned by other than Federal agencies before Federal involvement so that:

(1) The sponsor of the proposal initiates studies if Federal involvement is foreseeable.

(2) The Federal agency consults early with appropriate State and local agencies and with interested private persons and organizations when its own involvement is reasonably foreseeable.

(3) The Federal agency commences its NEPA process at the earliest possible time.

§ 1501.3 When to prepare an environmental assessment.

An environmental assessment (§ 1508.9) shall be prepared unless one is not necessary under the procedures adopted under § 1507.3(b). Agencies may prepare an assessment on any action at any time in order to assist agency planning and decisionmaking.

§ 1501.4 Whether to prepare an environmental impact statement.

In determining whether to prepare an environmental impact statement the Federal agency shall:

(a) Determine under § 1507.3 whether the proposal is one which

(1) Normally requires an environmental impact statement, or

(2) Normally does not require either an environmental impact statement or an environmental assessment (categorical exclusion).

(b) If the proposed action is not covered by paragraph (a), prepare an environmental assessment (§ 1508.9). The agency shall involve environmental agencies and the public, to the extent practicable, in preparing the assessment.

(c) Based on the environmental assessment make its determination whether to prepare an environmental impact statement.

(d) If the agency will prepare an environmental impact statement, the agency shall commence the scoping process (§ 1501.7).

(e) If the agency determines on the basis of the environmental assessment not to prepare a statement, the agency shall prepare a finding of no significant impact (§ 1508.13).

(1) The agency shall make the finding of no significant impact available in a manner calculated to inform the affected public as specified in § 1506.6.

(2) In certain limited circumstances the agency shall make the finding of no significant impact available for public review for 30 days before the agency makes its final determination whether to prepare an environmental impact statement and before the action may begin. The circumstances are:

(i) The proposed action is, or is closely similar to, one which normally requires the preparation of an environmental impact statement under the procedures adopted by the agency pursuant to section 1507.3(b), or

(ii) The nature of the proposed action is one without precedent.

§ 1501.5 Lead agencies.

(a) A lead agency shall supervise the preparation of an environmental impact statement if more than one Federal agency either:

(1) Proposes or is involved in the same action; or

(2) Is involved in a group of actions directly related to each other because of their functional interdependence or geographical proximity.

(b) More than one Federal, State, or local agency, one of which must be Federal, may act as joint lead agencies to prepare an environmental impact statement (section 1506.2).

(c) If an action satisfies the provisions of paragraph (a) of this section the potential lead agencies concerned shall determine by letter or memorandum which agency shall be the lead agency and which shall be cooperating agencies. The agencies shall resolve the lead agency question in a manner that will not cause delay. If there is disagreement among the agencies, the following factors (which are listed in descending importance) shall determine lead agency designation:

(1) Magnitude of agency's involvement.

(2) Project approval/disapproval authority.

(3) Expertise concerning the action's environmental effects.

(4) Duration of agency's involvement.

(5) Sequence of agency's involvement.

(d) If potential lead agencies fail to agree on which agency shall be the lead agency as specified in paragraph (c) of this section, (1) any Federal agency or (2) any State or local agency or private person substantially affected by the absence of agreement on lead agency designation may make a written request to the potential lead agencies that a lead agency be designated.

(e) If Federal agencies are unable to agree on which agency will be the lead agency or if the procedure described in paragraph (d) of this section has not resulted within a reasonable time in a lead agency designation, any of the agencies or persons concerned may file a request with the Council asking it to determine which Federal agency shall be the lead agency.

A copy of the request shall be transmitted to each potential lead agency. The request shall consist of:

(1) A precise description of the nature and extent of the proposed action;

(2) A detailed statement of why each potential lead agency should or should not be the lead agency under the criteria specified in subparagraph (2).

(f) A response may be filed by any potential lead agency concerned within 20 days after a request is filed with the Council. The Council shall determine within 20 days after receiving the request and all responses which Federal agency shall be the lead agency and the extent to which the other Federal agencies concerned shall be cooperating Federal agencies.

§ 1501.6 Cooperating agencies.

The purpose of this section is to emphasize agency cooperation early in the NEPA process. Upon request of the lead agency, any other Federal agency which has jurisdiction by law shall be a cooperating agency. In addition any other Federal agency which has special expertise with respect to any environmental issue, which should be addressed in the statement may be a cooperating agency upon request of the lead agency.

(a) The lead agency shall:

(1) Request the participation of each cooperating agency in the NEPA process at the earliest possible time.

(2) To the maximum extent possible consistent with its responsibility as lead agency use the environmental analysis and proposals of cooperating agencies with jurisdiction by law or special expertise.

(3) Meet with a cooperating agency at the latter's request.

(b) Each cooperating agency shall:

(1) Participate in the NEPA process at the earliest possible time.

(2) Participate in the scoping process.

(3) Assume on request of the lead agency responsibility for developing information and preparing environmental analyses including portions of the environmental impact statement concerning which the cooperating agency has special expertise.

(4) Make available staff support at the lead agency's request to enhance the latter's interdisciplinary capability.

(5) Normally a cooperating agency shall use its own funds. The lead agency shall, to the extent available funds permit, fund those major activities or analyses it requests from cooperating agencies. Potential lead agencies shall include such funding requirements in their budget requests

§ 1501.7 Scoping.

There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues. This process shall be termed scoping. As soon as practicable after its decision to prepare an environmental impact statement and before the scoping process the lead agency shall publish a notice of intent (§ 1508.21) in the FEDERAL REGISTER.

(a) As part of the scoping process the lead agency shall:

(1) Invite the participation of affected Federal, State, and local agencies, any affected Indian tribe, the proponent of the action, and other interested persons (including those who might not be in accord with the action).

(2) Determine the scope (§ 1508.24) and the significant issues to be analyzed in depth in the environmental impact statement.

(3) Identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (§ 1506.3), narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or a reference to their coverage elsewhere.

(4) Allocate assignments for preparation of the environmental impact statement among the lead and cooperating agencies, with the lead agency retaining responsibility for the statement.

(5) Indicate any environmental assessments and other environmental impact statements which are being or will be prepared that are related to but are not part of the scope of the impact statement which is the subject of the meeting.

(6) Identify other environmental review and consultation requirements so the lead and cooperating agencies may comply with section 1502.25.

(7) Indicate the relationship between the timing of the preparation of environmental analyses and the agency's tentative planning and decision-making schedule.

(8) When practicable hold an early scoping meeting or meetings which may be integrated with any other early planning meeting the agency has. Such scoping meeting will often be appropriate when the impacts of a particular action are confined to specific sites.

(b) As part of the scoping process the lead agency may:

(1) Set page limits on environmental documents (§ 1502.7).

(2) Set time limits (§ 1501.8).

(c) An agency shall revise the determinations made under paragraphs (a) and (b) of this section if substantial changes are made later in the proposed action or if significant new circumstances (including information) arise which bear on the proposal or its impacts.

§ 1501.8 Time limits.

Although the Council has decided that universal time limits for the entire NEPA process are too inflexible to prescribe, Federal agencies are encouraged to set time limits appropriate to individual action (consistent with § 1506.10). When multiple agencies are involved the reference to agency below means lead agency.

(a) The agency shall:

(1) Consider the following factors in determining time limits:

(i) Potential for environmental harm.

(ii) Size of the proposed action.

(iii) State of the art of analytic techniques.

(iv) Degree of public need for the proposed actions, including the consequences of delay.

(v) Number of persons and agencies affected.

(vi) Degree to which relevant information is known and if not known the time required for obtaining it.

(vii) Degree to which the action is controversial.

(2) Set limits if an applicant for the proposed action requests them, provided that they are consistent with the purposes of NEPA and other essential considerations of national policy.

(b) The agency may:

(1) Set overall time limits or limits for each constituent part of the NEPA process, which may include:

(i) Decision on whether to prepare an environmental impact statement (if not already decided).

(ii) Determination of the scope of the environmental impact statement.

(iii) Preparation of the draft environmental impact statement.

(iv) Review of any comments on the draft environmental impact statement from the public and agencies.

(v) Preparation of the final environmental impact statement.

(vi) Review of any comments on the final environmental impact statement.

(vii) Decision on the action based in part on the environmental impact statement.

(2) Designate a person (such as the project manager or a person in the agency's office with NEPA responsibilities) to expedite the NEPA process.

(c) State or local agencies or members of the public may request a Federal Agency to set time limits.

PART 1502—ENVIRONMENTAL IMPACT STATEMENT

Sec.

1502.1 Purpose.
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1502.24 Methodology and Scientific Accuracy.
1502.25 Environmental Review and Consultation Requirements.

AUTHORITY: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), Section 309 of the Clean Air Act, as amended (42 U.S.C. 1857h-7), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May 24, 1977).

§ 1502.1 Purpose.

The primary purpose of an environmental impact statement is as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment. Agencies shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses. An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.

§ 1502.2 Implementation.

To achieve the purposes set forth in § 1502.1 agencies shall prepare environmental impact statements in the following manner:

(a) Environmental impact statements shall be analytic rather than encyclopedic.

(b) Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues. As in a finding of no significant impact, there should be only enough discussion to show why more study is not warranted.

(c) Environmental impact statements shall be kept concise and shall be no longer than absolutely necessary to comply with NEPA with these regulations. Length should vary first with potential environmental problems and then with project size.

(d) Environmental impact statements shall state how alternatives considered in it and decisions baseon on it will or will not achieve the requirements of sections 101 and 102(1) of the Act and other environmental laws and policies.

(e) The range of alternatives discussed in environmental impact statements shall encompass those the ultimate agency decisionmaker considers.

(f) Agencies shall not commit resources prejudicing selection of alternatives before making a final decision (§ 1506.1).

(g) Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.

§ 1502.3 Statutory requirements for statements.

As required by sec. 102(2)(C) of NEPA environmental impact statements (§ 1508.11) are to be included in every recommendation or report

On proposals (§ 1508.22).

For legislation and (§ 1508.16).

Other major Federal actions (§ 1508.17).

Significantly (§ 1508.25).

Affecting (§§ 1508.3, 1508.8).

The quality of the human environment (§ 1508.14).

§ 1502.4 Major Federal actions requiring the preparation of environmental impact statements.

(a) Agencies shall make sure the proposal which is the subject of an environmental impact statement is properly defined. Agencies shall use the criteria for scope (§ 1508.24) to determine which proposal(s) shall be the subject of a particular statement. Proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement.

(b) Environmental impact statements may be prepared, and are sometimes required, for broad Federal actions such as the adoption of new agency programs or regulations (§ 1508.17). Agencies shall prepare statements on broad actions to be relevant to policy and timed to coincide with meaningful points in agency planning and decisionmaking.

(c) When preparing statements on broad actions, agencies may find it useful to evaluate the proposal(s) by one or more agencies in one of the following ways:

(1) Geographic, including actions occurring in the same general location, such as an ocean, region, or metropolitan area.

(2) Generic, including actions which have relevant similarities, such as common timing, impacts, alternatives, methods of implementation, media, or subject matter.

(3) Technological development including federal or federally assisted research, development or demonstration programs aimed at developing new technologies which, if applied, could significantly affect the quality of the human environment. Statements shall be prepared on such programs and shall be available before the program has reached a stage of investment or commitment to implementation likely to determine subsequent development or restrict later alternatives.

(d) Agencies shall as appropriate employ scoping (§ 1501.7), tiering (§ 1502.20), and other methods listed in §§ 1500.4 and 1500.5 to relate broad and narrow actions and to avoid duplication and delay.

§ 1502.5 Timing.

An agency shall commence preparation of an environmental impact statement as close as possible to the time the agency makes or is presented with a proposal (§ 1508.22) so that preparation can be completed in time for the final statement to be included in any recommendation or report on the proposal. The statement shall be prepared early enough so that it can practically serve as an important contribution to the decisionmaking process and shall not be used to rationalize or justify decisions already made (§§ 1500.2(c), 1501.2, and 1502.2). For instance:

(a) For projects directly undertaken by Federal agencies such statements shall be prepared at the feasibility analysis (go-no go) stage and may be supplemented at a later stage if necessary

(b) For applications to the agency appropriate preliminary environmental assessments or statements shall be commenced at the latest immediately after the application is received, but federal agencies are encouraged to prepare them earlier, preferably jointly with applicable State or local agencies.

(c) For adjudication, the final environmental impact statement shall normally precede the final staff recommendation and that portion of the public hearing related to the impact study. In appropriate circumstances the statement may follow preliminary hearings designed to gather information for use in the statements.

§ 1502.6 Interdisciplinary preparation.

Environmental impact statements shall be prepared using an inter-disciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts (section 102(2)(A) of the Act). The disciplines of the preparers shall be correlated to the scope and issues identified in the scoping process (§ 1501.7).

§ 1502.7 Page limits.

The text of [redacted] environmental impact statemen[redacted] (e.g., paragraphs (d) through (g) of § 1502.10) shall normally be [redacted] proposals [redacted] complexity shall normally be less than 300 pages.

§ 1502.8 Writing.

Environmental impact statements shall be written in plain language and may use appropriate graphics so that they may be understood by decisionmakers and the public. Agencies should employ writers of clear prose or editors to write, review, or edit statements, which will be based upon the analysis and supporting data from the natural and social sciences and the environmental design arts.

§ 1502.9 Draft, final, and supplemental statements.

Except as provided in § 1506.8, environmental impact statements shall be prepared in two stages and may be supplemented.

(a) Draft environmental impact statements shall be prepared in accordance with the scope decided upon in the scoping process. The lead agency shall work with the cooperating agencies and shall obtain comments as required in Part 1503. At the time the draft statement is prepared it must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(C) of the Act. If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion. In the draft statement the agency shall make every effort to disclose and discuss at appropriate points in the text all major points of view on the environmental impacts of the alternatives including the proposed action.

(b) Final environmental impact statements shall respond to comments as required in Part 1503. In the final statement the agency shall discuss at appropriate points in the text the existence of any responsible opposing view not adequately discussed in the draft statement and shall indicate the agency's response to the issues raised.

(c) Agencies:

(1) Shall prepare supplements to either draft or final environmental impact statements if:

(i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or

(ii) There are significant new circumstances, relevant to environmental concerns (including information), bearing on the proposed action or its impacts.

(2) May also prepare supplements when the agency determines that the purposes of the Act will be furthered by doing so.

(3) Shall adopt procedures for introducing a supplement into its formal administrative record, if such a record exists.

(4) Shall prepare, circulate, and file a supplement to a statement in the same fashion (exclusive of scoping) as a draft statement unless alternative procedures are approved by the Council.

§ 1502.10 Recommended format.

Agencies shall use a format for environmental impact statements which will encourage good analysis and clear presentation of the alternatives including the proposed actions. The following standard format for environmental impact statements should be followed unless there is a compelling reason to do otherwise:

(a) Cover sheet
(b) Summary
(c) Table of Contents
(d) Purpose of and Need for Action
(e) Alternatives Including Proposed Action (secs. 102(2)(C)(iii) and 102(2)(E) of the Act).
(f) Environmental Consequences (especially secs. 102(2)(C) (i), (ii), (iv), and (v) of the Act.
(g) Affected Environment.
(h) List of Preparers.
(i) List of Agencies, Organizations, and Persons to Whom Copies of the Statement Are Sent.
(j) Index.
(k) Appendices (if any).

If a different format is used, it shall include paragraphs (a), (b), (c), (h), (i), and (j), of this section and shall include the substance of paragraphs (d), (e), (f), (g), and (k) of this section as further described in §§ 1502.11-1502.18 in any appropriate format.

§ 1502.11 Cover sheet.

The cover sheet shall not exceed one page. It shall include:

(a) The name of the responsible agencies including the lead agency and any cooperating agencies.

(b) The name of the proposed action that is the subject of the statement (and if appropriate the names of related cooperating agency actions), together with the State(s) and county(ies) (or the country if applicable) where the action is located.

(c) The name, address, and telephone number of the person at the agency who can supply further information.

(d) A designation of the statement as a draft, final, or draft or final supplement.

(e) A one paragraph abstract of the statement.

(f) The date by which comments must be received (computed in cooperation with EPA § 1506.10)).

§ 1502.12 Summary.

Each environmental impact statement shall contain a summary which adequately and accurately summarizes the statement. The summary shall stress the major conclusions, areas of controversy (including issues raised by agencies and the public), and the issues to be resolved (including the choice among alternatives). The summary will normally not exceed 15 pages.

§ 1502.13 Purpose and need.

The statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the action and alternatives. Normally this section shall not exceed one page.

§ 1502.14 Alternatives including the proposed action.

This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Environmental Consequences (§ 1502.15) and the Affected Environment (§ 1502.16), [redacted] thus sharpening the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies shall:

(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for such elimination.

(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate the comparative merits.

[redacted]

(d) Include the no action alternative.

(e) Identify the environmentally preferable alternative (or alternatives if two or more are equally preferable) and the reasons for identifying it. If the alternative identified is for no action, the agency shall also identify the alternative other than no action that is environmentally preferable and the reasons for identifying it.

(f) Identify the agency's preferred alternative or alternatives if one or more exists in the draft statement and identify such alternative(s) in the final statement unless another law prohibits the expression of such a preference.

(g) Include appropriate mitigation measures not already included in the proposed action or alternatives.

§ 1502.15 Environmental consequences.

This section forms the scientific and analytic basis for the comparisons under § 1502.14. It shall consolidate the discussions of those elements required by secs. 102(2)(C) (i), (ii), (iv), and (v) of NEPA which are within the scope of the statement and as much of sec. 102(2)(C)(iii) as is necessary to support the comparisons. This includes the environmental impacts of the proposed action and alternatives, any adverse environmental effects which cannot be avoided should the proposal be implemented, the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposed action should it be implemented. The Council intends that preparers not cause duplication in the discussions under § 1502.14 and this section. This section shall include discussions of:

(a) Direct effects and their significance (§1508.8).

(b) Indirect effects and their significance (§ 1508.8).

(c) Possible conflicts between the proposed action and the objectives of Federal, regional, State, and local land use plans, policies, and controls for the area concerned.

(d) The environmental effects of alternatives including the proposed action. The comparisons under § 1502.14 will be based on this discussion.

(e) Energy requirements and conservation potential of various alternatives and mitigation measures.

(f) Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures.

(g) Means to mitigate adverse environmental impacts (if not fully covered under § 1502.14(g)).

§ 1502.16 Affected environment.

The environmental impact statement shall succinctly describe the environment of the area or areas to be affected by the alternatives under consideration. The descriptions shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues. Verbose descriptions of the affected environment are themselves no measure of the adequacy of an environmental impact statement.

§ 1502.17 List of preparers.

The environmental impact statement shall list the names, together with their qualifications and professional disciplines (§ 1502.6 and 1502.8), of the persons who were primarily responsible for preparing the environmental impact statement or significant background papers, including basic components of the statement. Where possible the names of persons who are responsible for a particular analysis, including analyses in background papers, shall be identified. Normally the list will not exceed two pages.

§ 1502.18 Appendix.

If an agency prepares an appendix to an environmental impact statment the appendix shall:

(a) Consist of material prepared in connection with an environmental impact statement (as distinct from material which is not so prepared and which is incorporated by reference §1502.21)).

(b) Normally consist of material which substantiates any analysis fundamental to the impact statement.

(c) Normally be analytic and relevant to the decision to be made.

(d) Be circulated with the environmental impact statement or be readily available on request.

§ 1502.19 Circulation of the environmental impact statement.

Agencies shall circulate the entire draft and final environmental impact statements except as provided in § 1502.18(d) and 1503.4(c). However, if the statement is unusually long, the agency may circulate the summary instead, except that the entire statement shall be furnished to:

(a) Any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved and any appropriate Federal, State or local agency authorized to develop and enforce environmental standards.

(b) Any person, organization, or agency requesting the entire environmental impact statement.

(c) In the case of a final environmental impact statement any person, organization, or agency which submitted substantive comments on the draft.

If the agency circulates the summary and thereafter receives a timely request for the entire statement, the time for comment for that requestor only shall be extended by at least 15 days beyond the minimum period.

§ 1502.20 Tiering.

Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review (§ 1508.26). Whenever a broad environmental impact statement has been prepared (such as a program or policy statement) and a subsequent statement or environmental assessment is then prepared on an action included within the entire program or policy (such as a site specific action) the subsequent statement or environmental assessment need only summarize the issues discussed in the broader statement and incorporate such discussions by reference and shall concentrate on the issues specific to the subsequent action. Tiering may also be appropriate for different stages of actions. (Section 1508.26).)

§ 1502.21 Incorporation by reference.

Agencies shall incorporate material into an environmental impact statement by reference when to do so will cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment. Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference.

§ 1502.22 Incomplete or unavailable information.

Agencies dealing with gaps in relevant information including scientific uncertainty, shall always make clear that such information is lacking or that uncertainty exists.

(a) If the information is essential to a reasoned choice among alternatives and is not known and the costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.

(b) If the information is important to the decision and the means to obtain it are not known (e.g., the means for obtaining it are beyond the state of the art) the agency shall weigh the need for the action against the risk and severity of possible adverse impacts were the action to proceed in the face of uncertainty. If the agency proceeds, it shall include a worst case analysis.

§ 1502.23 Cost-benefit analysis.

If a cost-benefit analysis is being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences. To assess the adequacy of compliance with sec. 102(2)(B) of the Act the statement shall when a cost-benefit analysis is prepared discuss the relationship between that analysis and any analyses of unquantified environmental impacts, values, and amenities.

§ 1502.24 Methodology and scientific accuracy.

Agencies shall insure the professional, including scientific, integrity of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement.

§ 1502.25 Environmental review and consultation requirements.

To the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with environmental impact analyses and related surveys and studies required by the Fish and Wildlife Coordination Act (16 U.S.C. Sec. 661 et seq.) the National Historic Preservation Act of 1966 (16 U.S.C. Sec. 470 et seq.), the Endangered Species Act of 1972 (16 U.S.C. Sec. 1531 et seq.) and other environmental review laws.

PART 1503—COMMENTING

Sec.
1503.1 Inviting Comments.
1503.2 Duty to Comment.
1503.3 Specificity of Comments.
1503.4 Response to Comments.

AUTHORITY: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), Section 309 of the Clean Air Act, as amended (42 U.S.C. 1857h-7), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May 24, 1977).

§ 1503.1 Inviting comments.

(a) After preparing a draft environmental impact statement and before preparing a final environmental impact statement the agency shall:

(1) Obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved or which is authorized to develop and enforce environmental standards.

(2) Request the comments of appropriate State and local agencies which are authorized to develop and enforce environmental standards, or any agency which has requested that it receive statements on actions of the kind proposed.

(3) Request comments from the public, affirmatively soliciting comments from those persons or organizations who may be interested or affected.

(b) After preparing a final environmental impact statement an agency may request comments on it before the decision is finally made. In any case other agencies or persons may make comments before the final decision unless a different time is provided under § 1506.10.

§ 1503.2 Duty to comment.

[redacted]with jurisdiction by la[redacted]pertise with respect to any environmental impact involved or which are authorized to develop and enforce environmental standards [redacted] Federal agency may (and a cooperating agency that is satisfied that its views are adequately reflected in the environmental impact statement would) reply that it has no comment.

§ 1503.3 Specificity of comments.

Comments on an environmental impact statement or on a proposed action shall be as specific as possible and ~~may address either the adequacy of the statement or the merits of the alternatives discussed or both.~~When a commenting agency criticizes a lead agency's predictive methodology, the commenting agency should describe the alternative methodology which it prefers and why.

§ 1503.4 Response to comments.

(a) An agency preparing a final environmental impact statement shall assess and consider comments both individually and collectively, and shall respond by one or more of the means listed below specifying its response in the final statement. Possible responses are to:

(1) Modify the proposed action.

(2) Develop and evaluate alternatives not previously given serious consideration by the agency.

(3) Supplement, improve, or modify its analyses.

(4) Make factual corrections.

(5) Explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response.

(b) All substantive comments received on the draft statement (or summaries thereof where the response has been exceptionally voluminous), should be attached to the final statement whether or not the comment is thought to merit individual discussion by the agency in the text of the statement.

(c) If changes are minor and are confined to the responses described in paragraphs (a)(4) and (5) of this section, agencies may write them on errata sheets and attach them to the statement instead of rewriting the draft statement. In such cases only the comments, the responses, and the changes and not the final statement need be circulated (§ 1502.19). The entire document with a new cover sheet shall be filed as the final statement (§ 1506.9).

PART 1504—PREDECISION REFERRALS TO THE COUNCIL OF PROPOSED FEDERAL ACTIONS FOUND TO BE ENVIRONMENTALLY UNSATISFACTORY

Sec.
1504.1 Purpose.
1504.2 Criteria for Referral.
1504.3 Procedure for Referrals and Response.

AUTHORITY: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), Section 309 of the Clean Air Act, as amended (42 U.S.C. 1857h-7), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May 24, 1977).

§ 1504.1 Purpose.

(a) This part establishes procedures for referring to the Council Federal interagency disagreements concerning proposed major Federal actions that might cause unsatisfactory environmental effects. It provides means for early resolution of such disagreements.

(b) Under section 309 of the Clean Air Act (42 U.S.C. 7609), the Administrator of the Environmental Protection Agency is directed to review and comment publicly on the environmental impacts of Federal activities, including actions for which environmental impact statements are prepared. If after this review the Administrator determines that the matter is "unsatisfactory from the standpoint of public health or welfare or environmental quality," section 309 directs that the matter be referred to the Council (hereafter "environmental referrals").

(c) ~~Under section 102(2)(C) of the Act other Federal agencies may make similar reviews of environmental impact statements, including judgments on the acceptability of anticipated environmental impacts. These reviews must be made available to the President, the Council and the public.~~

§ 1504.2 Criteria for referral.

Environmental referrals should only be made to the Council after concerted, timely (as early as possible in the process), but unsuccessful attempts to resolve differences with the lead agency. In determining what environmental objections to the matter are appropriate to refer to the Council, an agency should weigh potential adverse environmental impacts, considering:

(a) Possible violation of national environmental standards or policies.

(b) Severity.

(c) Geographical scope.

(d) Duration.

(e) Importance as precedents.

(f) Availability of environmentally preferable alternatives.

§ 1504.3 Procedure for referrals and response.

(a) A Federal agency making the referral to the Council shall:

(1) Advise the lead agency at the earliest possible time that it intends to refer a matter to the Council unless a satisfactory agreement is reached.

(2) Include such advice in the referring agency's comments on the draft environmental impact statement, except when the statement does not contain adequate information to permit an assessment of the matter's environmental acceptability.

(3) Identify any essential information that is lacking and request that it be made available at the earliest possible time.

(4) Send copies of such advice to the Council.

(b) The referring agency shall deliver its referral to the Council not later than twenty-five (25) days after the final environmental impact statement has been made available to the Environmental Protection Agency, commenting agencies, and the public. Except when an extension of this period has been granted by the lead agency, the council will not accept a referral after that date.

(c) The referral shall consist of:

(1) A copy of the letter signed by the head of the referring agency and delivered to the lead agency informing the lead agency of the referral and the reasons for it, and requesting that no action be taken to implement the matter until the Council acts upon the referral. The letter shall include a copy of the statement referred to in § 1504.3(c)(2) below.

(2) A statement supported by factual evidence leading to the conclusion that the matter is unsatisfactory from the standpoint of public health or welfare or environmental quality. The statement shall:

(i) Identify any material facts in controversy and incorporate (by reference if appropriate) agreed upon facts,

(ii) Identify any existing environmental requirements or policies which would be violated by the matter,

(iii) Present the reasons the referring agency believes the matter is environmentally unsatisfactory,

(iv) Contain a finding by the agency whether the issue raised is one of national importance because of the threat to national environmental resources or policies or for some other reason,

(v) Review the steps taken by the referring agency to bring its concerns to the attention of the lead agency at the earliest possible time, and

(vi) Give the referring agency's recommendations as to what mitigation alternative, further study, or other course of action (including abandonment of the matter) are necessary to remedy the situation.

(d) Not later than twenty-five (25) days after the referral to the Council, the lead agency may deliver a response to the Council and the referring agency. If the lead agency requests more time and gives assurance that the matter will not go forward in the interim, the Council may grant an extension. The response shall:

(1) Address fully the issues raised in the referral.

(2) Be supported by evidence.

(3) Give the lead agency's response to the referring agency's recommendations.

(e) Not later than twenty-five (25) days after receipt of both the referral and any response or upon being informed that there will be no response (unless the lead agency agrees to a longer time), the Council may take one or more of the following actions:

(1) Conclude that the process of referral and response has successfully resolved the problem.

(2) Initiate discussions with the agencies with the objective of mediation with referring and lead agencies.

(3) Hold public meetings or hearings to obtain additional views and information.

(4) Determine that the issue is not one of national importance and request the referring and lead agencies to pursue their decision process.

(5) Determine that the issue should be further negotiated by the referring and lead agencies and is not appropriate for Council consideration until one or more heads of agencies report to the Council that the agencies' disagreements are irreconcilable.

(6) Publish its findings and recommendations (including where appropriate a finding that the submitted evidence does not support the position of an agency).

(7) When appropriate, submit the referral and the response together with the Council's recommendation to the President for action.

PART 1505—NEPA AND AGENCY DECISIONMAKING

Sec.
1505.1 Agency decisionmaking procedures.
1505.2 Record of decision in those cases requiring environmental impact statements.
1505.3 Implementing the decision.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), section 309 of the Clean Air Act, as amended (42 U.S.C. 1857h-7), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May 24, 1977).

§ 1501.1 Agency decisionmaking procedures.

Agencies shall adopt procedures (§ 1507.3) to ensure that decisions are made in accordance with the policies and purposes of the Act. Such procedures shall include but not be limited to:

(a) Implementing procedures under section 102(2) to achieve the requirements of sections 101 and 102(1).

(b) Designating the major decison points for the agency's principal programs likely to have a significant effect on the human environment and assuring that the NEPA process corresponds with them.

(c) Requiring that relevant environmental documents, comments, and responses be part of the record in formal rulemaking or adjudicatory proceedings.

(d) Requiring that relevant environmental documents, comments, and responses accompany the proposal through existing agency review process so that agency officials use the statement in making decisions.

(e) Requiring that the alternatives considered by the decision maker are encompassed by the range of alternatives discussed in the relevant environmental documents and that the decisionmaker consider the alternatives described in the environmental impact statement. If another decision document accompanies the relevant environmental documents to the decisionmaker, agencies are encouraged to make available to the public before the decision is made any part of that document that relates to the comparison of alternatives.

§ 1505.2 Record of decision in those cases requiring environmental impact statements.

At the same time of its decision (or, if appropriate, its recommendation to Congress) each agency shall prepare a concise public record of decision. The record, which may be integrated into any other record prepared by the agency, including that required by OMB Circular A-95, part I, sections 6 (c) and (d), and part II, section 5(b)(4), shall state:

(a) What the decision was.

(b) If an alternative other than those designated pursuant to § 1502.14(e) has been selected, the reasons why other specific considerations of national policy overrode those alternatives.

(c) Whether all practicable means to avoid or minimize environmental harm have been adopted, and if not, why they were not. For any mitigation adopted, a monitoring and enforcement program where applicable shall be adopted and summarized.

§ 1505.3 Implementing the decision.

Agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases. Mitigation (§ 1505.2(c)) and other conditions established in or during the review of the environmental impact statement and committed as part of the decision shall be implemented by the appropriate agency. The lead agency shall:

(a) Include appropriate conditions in grants, permits or other approvals.

(b) Condition funding of actions on mitigation.

(c) Upon request, inform cooperating or commenting agencies on progress in carrying out mitigation measures proposed by any such agency and adopted by the agency making the decision.

(d) Upon request, make available to the public the results of relevant monitoring.

PART 1506—OTHER REQUIREMENTS OF NEPA

Sec.
1506.1 Limitations on actions during NEPA process.
1506.2 Elimination of duplication with State and local procedures.
1506.3 Adoption.
1506.4 Combining documents.
1506.5 Agency responsibility.
1506.6 Public involvement.
1506.7 Further guidance.
1506.8 Proposals for legislation.
1506.9 Filing requirements.
1506.10 Timing of agency action.
1506.11 Emergencies.
1506.12 Effective date.

AUTHORITY: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), Section 309 of the Clean Air Act, as amended (42 U.S.C. 1857h-7), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May 24, 1977).

§ 1506.1 Limitations on actions during NEPA process.

(a) Until an agency issues a record of decision as provided in § 1505.2 (except as provided in subsection (c)), no action concerning the proposal shall be taken which would:

(1) Have an adverse environmental impact; or

(2) Limit the choice of reasonable alternatives.

(b) If any agency is considering an application from a non-Federal entity, and is aware that the applicant is planning to take an action within the agency's jurisdiction that would meet either of the criteria in § 1506.1(a), then the agency shall promptly notify the applicant that the agency will take appropriate action to insure that the objectives and procedures of NEPA are achieved.

(c) While work on a required program environmental impact statement is in progress and the action is not covered by an existing program statement, agencies shall not undertake in the interim any major Federal action which may significantly affect the quality of the human environment and which is covered by the program unless such action:

(1) Is justified independently of the program;

(2) Will not prejudice the ultimate decision on the program. Interim action prejudices the ultimate decision on the program when it tends to determine subsequent development or limit alternatives; and

(3) Is itself accompanied by an adequate environmental impact statement.

§ 1506.2 Elimination of duplication with State and local procedures.

(a) Agencies authorized by law to cooperate with State agencies of statewide jurisdiction pursuant to section 102(2)(D) of the Act may do so.

(b) Agencies shall cooperate with State and local agencies to the fullest extent possible to reduce duplication in NEPA and comparable State and local requirements, unless they are specifically barred from doing so by some other law. Except where an agency is proceeding in the manner specified by paragraph (a) of this section, such cooperation shall to the fullest extent possible include:

(1) Joint planning processes.

(2) Joint environmental research and studies.

(3) Joint public hearings (except where otherwise provided by statute).

(4) Joint environmental assessments and joint environmental impact statements. In such cases one or more Federal agencies and one or more State or local agencies shall be joint lead agencies. Where State laws or local ordinances have environmental impact statement requirements in addition to but not in conflict with those in NEPA, Federal agencies shall cooperate in fulfilling the requirements of those as well as Federal laws so that one document will comply with all applicable laws.

(c) To better integrate environmental impact statements into state or local planning processes, statements shall discuss any inconsistency of a proposed action with any approved State or local plan and laws (whether or not federally sanctioned).

§ 1506.3 Adoption.

(a) An agency may adopt a Federal draft or final environmental impact statement or portion thereof provided that the agency treats the statement as a draft and recirculates it (except as provided below in paragraph (b) of this section): *And provided*, That the statement or portions thereof meets the standards for an adequate draft statement under these regulations.

(b) A cooperating agency may adopt without recirculating the environmental impact statement of a lead agency when, after an independent review of the statement, the cooperating agency concludes that its comments and suggestions have been satisfied.

(c) When an agency adopts a statement which is not final within the agency that prepared it, or when the action it assesses is the subject of a referral under part 1504, or when the statement's adequacy is the subject of a judicial action which is not final, the agency shall so specify.

§ 1506.4 Combining documents.

Any environmental document in compliance with NEPA may be combined with any other agency document to reduce duplication and paperwork.

§ 1506.5 Agency responsibility.

(a) If an agency relies on an applicant to submit initial environmental information, the agency should assist the applicant by outlining the types of information required. In all cases, the agency should make its own evaluation of the environmental issues and take responsibility for the scope and content of environmental assessments.

(b) Except as provided in §§ 1506.2 and 1506.3 any environmental impact statement prepared pursuant to the requirements of NEPA shall be prepared directly by or under contract to the lead agency or where appropriate under § 1501.6(b), a cooperating agency. In the case of such contract it is the intent of these regulations that the contractor be chosen solely by the lead agency or by the lead agency in cooperation with cooperating agencies or where appropriate by a cooperating agency to avoid any conflict of interest. Contractors shall execute a disclosure statement prepared by the lead agency or where appropriate the cooperating agency specifying that they have no financial or other interest in the outcome of the project. If the document is prepared by contract, the responsible Federal official shall furnish guidance and participate in the preparation and shall independently evaluate the statement prior to its approval. Nothing in this section is intended to prohibit any agency from requesting any person to submit information to it or any person from submitting information to any agency.

§ 1506.6 Public involvement.

Agencies shall: (a) Make diligent effort to involve the public in preparing and implementing their NEPA procedures.

(b) Provide public notice of NEPA-related hearings, meetings, and the availability of environmental documents by means calculated to inform those persons and agencies who may be interested or affected.

(1) In all cases the agency shall mail notice to those who have requested it on an individual action.

(2) In the case of an action with effects of national concern such notice shall include publication in the FEDERAL REGISTER and notice by mail to national organizations with interest in the matter and may include listing in the 102 Monitor.

(3) In the case of an action with effects primarily of local concern the notice may include:

(i) Notice to State and local agencies pursuant to OMB Circular A-95.

(ii) Following the affected State's public notice procedures for comparable actions.

(iii) Publication in local newspapers (in papers of general circulation rather than legal papers).

(iv) Notice through other local media.

(v) Notice to potentially interested community organizations including small business associations.

(vi) Publication in newsletters that may be expected to reach potentially interested persons.

(vii) Direct mailing to owners and occupants of nearby or affected property.

(viii) Posting of notice on and off site in the area where the action is to be located.

(c) Hold or sponsor public hearings or public meetings whenever appropriate. Criteria shall include whether there is:

(1) Substantial environmental controversy concerning the proposed action or substantial interest in holding the hearing.

(2) A request for a hearing by another agency with jurisdiction over the action supported by reasons why a hearing will be helpful.

(d) Solicit appropriate information from the public.

(e) Explain in its procedures where interested persons can get information or status reports on environmental impact statements and other elements of the NEPA process.

(f) Make environmental impact statements, the comments received, and any underlying documents available to the public pursuant to the provisions of the Freedom of Information Act (5 U.S.C. 552), without regard to the exclusion of intra- or interagency memoranda where such memoranda transmit comments of Federal agencies on the environmental impact of the proposed action.

§ 1506.7 Further guidance.

The Council may provide further guidance concerning NEPA and its procedures including:

(a) A handbook which the Council may supplement from time to time which shall in plain language provide guidance and instructions concerning the application of NEPA and these regulations.

(b) Publication of the Council's Memoranda to Heads of Agencies.

(c) In conjunction with the Environmental Protection Agency and the publication of the 102 Monitor, notice of:

(1) Research activities;

(2) Meetings and conferences related to NEPA; and

(3) Successful and innovative procedures used by agencies to implement NEPA.

§ 1506.8 Proposals for legislation.

The NEPA process for proposals for legislation (§ 1508.16) significantly affecting the quality of the human environment shall be integrated with the legislative process of the Congress. A legislative environmental impact statement is the detailed statement required by law which shall accompany proposed legislation to the Congress. Preparation of a legislative environmental impact statement shall include consultation with appropriate agencies (which may be pursuant to OMB Circular A-19) and conform with the requirements of these regulations except as follows:

(a) There need not be a scoping process.

(b) The legislative statement shall otherwise be treated in the same manner as a draft statement except as further specified. There need not be a final environmental impact statement: *Provided*, That when any of the following conditions exist both the draft and final environmental impact statement on the legislative proposal shall be prepared and circulated as provided by sections 1503.1 and 1506.10.

(1) A Congressional Committee with jurisdiction over the proposal has a rule requiring both draft and final environmental impact statements.

(2) The proposal results from a study process required by statute (such as those required by the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.) and the Wilderness Act (16 U.S.C. et seq.)).

(3) Legislative approval is sought for Federal or federally assisted construction or other projects which the agency recommends be located at specific geographic locations. For proposals requiring an environmental impact statement for the acquisition of space by the General Services Administration, a draft statement shall accompany the Prospectus or the 11(b) Report of Building or the 11(b) Report of Building Project Surveys to the Congress, and a final statement shall be completed before site acquisition.

(4) The agency decides to prepare draft and final statements.

(c) Comments on the legislative statement shall be given to the lead agency which shall forward them along with its own responses to the Congressional committees with jurisdiction.

(d) The Environmental Protection Agency may reduce the period for review required by § 1506.10 to insure that comments and responses are received by the appropriate Congressional committee prior to hearings on the proposal.

§ 1506.9 Filing requirements.

Environmental impact statements together with comments and responses shall be filed with the Environmental Protection Agency, attention Office of Federal Activities (A-104), 401 M Street SW., Washington, D.C. 20460. Statements shall be filed with EPA no earlier than they are also transmitted to commenting agencies and the public. EPA shall deliver one copy of each statement to the Council, which shall satisfy the requirement of availability to the President.

§ 1506.10 Timing of agency action.

(a) No decision on the proposed action shall be made or recorded under § 1505.2 by a Federal agency until the later of the following dates:

(1) Ninety (90) days after publication of the notice described in paragraph (d) of this section for a draft environmental impact statement.

(2) Thirty (30) days after publication of the notice described in paragraph (d) of this section for a final environmental impact statement.

Provided, That when an agency has formally established an internal appeal process, through which agencies or the public may take appeals and make their views known after preparation of the final environmental impact statement, and which provides a real opportunity to alter the decision, an administratively reviewable decision in the proposed action may be made after publication of the notice described in paragraph (d) of this section for a final environmental impact statement. This means that the period for appeal and the period prescribed by paragraph (a)(2) of this section may run concurrently. In such a case the environmental impact statement shall explain the timing and the public's right of appeal.

Provided further, That when an agency's primary purpose is the protection of public health and safety, the agency may, with the approval of the Council, adopt procedures under § 1507.3 providing for a finding to be published in the Federal Register that it is necessary to waive the time requirement specified in paragraph (a)(2) of this section to preserve public health and safety.

Provided further, That when an agency's primary purpose is the protection of public health and safety and when that agency publishes proposed rules in the Federal Register for a period of public review prescribed by a statute the agency administers, that time period and the period prescribed under paragraph (a)(2) of this section may run concurrently.

(b) If the final environmental impact statement is filed within ninety (90) days after a draft environmental impact statement is filed with the Environmental Protection Agency, the minimum thirty (30) day period and the minimum ninety (90) day period may run concurrently.

(c) Subject to paragraph (e) of this section agencies shall allow not less than 45 days for comments on draft statements.

(d) The Environmental Protection Agency shall publish a notice in the Federal Register each week of the environmental impact statements filed with the Environmental Protection Agency the preceding week. The date of publication of this notice shall be the date from which the minimum time periods of this section shall be calculated.

(e) The lead agency may extend prescribed periods. The Environmental Protection Agency may upon a showing by the lead agency of compelling reasons of national policy reduce the prescribed periods and may upon a showing by any other Federal agency of compelling reasons of national policy also extend prescribed periods, but only after consultation with the lead agency. (Also see § 1507.3(d).) If the lead agency does not concur, the matter shall be referred to CEQ for resolution. When the Environmental Protection Agency reduces or extends any period of time it shall notify the Council.

§ 1506.11 Emergencies.

Where emergency circumstances make it necessary to take an action with significant environmental impact without observing the provisions of these regulations, the Federal agency proposing to take the action should consult with the Council about alternative arrangements. Agencies and the Council will limit such waivers to actions necessary to control the immediate impacts of the emergency. Other actions remain subject to NEPA review.

§ 1506.12 Effective date.

The effective date of these regulations is eight months after their final publication in the Federal Register.

(a) These regulations shall apply to the fullest extent practicable to ongoing activities and environmental documents begun before the effective date. These regulations do not apply to an environmental impact statement if the draft statement was filed before the effective date of these regulations. No completed environmental documents need be redone by reason of these regulations. Until these regulations are applicable, the Council's guidelines published in the Federal Register of August 1, 1973, shall continue to be applicable. In cases where these regulations are applicable the guidelines are superseded. However, nothing shall prevent an agency from proceeding under these regulations at an earlier time.

(b) NEPA shall continue to be applicable to actions begun before January 1, 1970, to the fullest extent possible.

PART 1507—AGENCY COMPLIANCE

Sec.

1507.1 Compliance.
1507.2 Agency Capability to Comply.
1507.3 Agency Procedures.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), Section 309 of the Clean Air Act, as amended (42 U.S.C. 1857h-7), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May 24, 1977).

§ 1507.1 Compliance.

All agencies of the Federal Government shall comply with these regulations. It is the intent of these regulations to allow each agency flexibility in adapting its implementing procedures authorized by § 1507.3 to the requirements of other applicable laws.

§ 1507.2 Agency capability to comply.

Each agency shall be capable (in terms of personnel and other resources) of complying with the requirements enumerated below. Such compliance may include use of other's resources, but the using agency shall itself have sufficient- capability, at minimum, to evaluate what others do for it. Agencies shall:

(a) Fulfill the requirements of Sec. 102(2)(A) of the Act to utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on the human environment. Agencies shall designate a person to be responsible for overall review of agency NEPA compliance.

(b) Identify methods and procedures required by Sec. 102(2)(B) to insure that presently unquantified environmental amenities and values may be given appropriate consideration.

(c) Prepare adequate environmental impact statements pursuant to Sec. 102(2)(C) and comment on statements in the areas where the agency has jurisdiction by law or special expertise or is authorized to develop and enforce environmental standards.

(d) Study, develop, and describe alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources. This requirement of Sec. 102(2)(E) extends to all such proposals, not just the more limited scope of Sec. 102(2)(C)(iii) where the discussion of alternatives is confined to impact statements.

(e) Comply with the requirements of Sec. 102(2)(H) that the agency initiate and utilize ecological information in the planning and development of resource-oriented projects.

(f) Fulfill the requirements of sections 102(2)(F), 102(2)(G), and 102(2)(I), of the Act and of Executive Order 11514, Protection and Enhancement of Environmental Quality, Sec. 2.

§ 1507.3 Agency procedures.

(a) Not later than eight months after publication of these regulations as finally adopted in the Federal Register, or five months after the establishment of an agency, whichever shall come later, each agency shall as necessary adopt procedures to supplement these regulations. When the agency is a department major subunits are encouraged (with the consent of the department) to adopt their own procedures. Such procedures shall not paraphrase these regulations. They shall confine themselves to implementing procedures. Each agency shall consult with the Council while developing its procedures and before publishing them in the Federal Register for comment. The procedures shall be adopted only after an opportunity for public review and after review by the Council for conformity with the Act and these regulations. The Council shall complete its review within 30 days. Once in effect they shall be filed with the Council and made readily available to the public. Agencies are encouraged to publish explanatory guidance for these regulations and their own procedures. Agencies shall continue to review their policies and procedures and to revise them as necessary to ensure full compliance with the purposes and provisions of the Act.

(b) Agency procedures shall comply with these regulations except where compliance would be inconsistent with statutory requirements and shall include:

(1) Those procedures required by §§ 1501.2(d), 1502.9(c)(3), 1503.1(c), 1505.1, 1506.6(e), and 1506.4.

(2) Specific criteria for and identification of those typical classes of action:

(i) Which normally do require environmental impact statements.

(ii) Which normally do not require either an environmental impact statement or an environmental assessment (categorical exclusions (§ 1508.4)).

(iii) Which normally require environmental assessments but not necessarily environmental impact statements.

(c) Agency procedures may include specific criteria for providing limited exceptions to the provisions of these regulations for proposed actions that are specifically authorized under criteria established by an Executive Order or statute to be kept secret in the interest of national defense or foreign policy and are in fact properly classified pursuant to such Executive Order or statute. Environmental assessments and environmental impact statements which address classified proposals may be safeguarded and restricted from public dissemination in accordance with agencies' own regulations applicable to classified information. These documents may be organized so that classified portions can be included as annexes, in order that the unclassified portions can be made available to the public.

(d) Agency procedures may provide for periods of time other than those presented in § 1506.10 when necessary to comply with other specific statutory requirements.

PART 1508—TERMINOLOGY AND INDEX

Sec.
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AUTHORITY: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 *et seq.*), Section 309 of the Clean Air Act, as amended (42 U.S.C. 1857h-7), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May 24, 1977).

§ 1508.1 Terminology.

The terminology of this part shall be uniform throughout the Federal Government.

§ 1508.2 Act.

"Act" means the National Environmental Policy Act, as amended (42 U.S.C. 4321, et seq.) which is also referred to as "NEPA."

§ 1508.3 Affecting.

"Affecting" means will or may have an effect on.

§ 1508.4 Categorical exclusion.

"Categorical Exclusion" means a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency in implementation of these regulations (§ 1507.3) and for which, therefore, neither an environmental assessment nor an environmental impact is needed. Any such procedures shall provide for extraordinary circumstances in which a normally excluded action may have a significant environmental effect.

§ 1508.5 Cooperating agency.

"Cooperating Agency" means any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment. The selection and responsibilities of a cooperating agency are described in § 1501.6. A State or local agency of similar qualifications or, when the effects are on a reservation, an Indian Tribe may by agreement with the lead agency become a cooperating agency.

§ 1508.6 Council.

"Council" means the Council on Environmental Quality established by Title II of the Act.

§ 1508.7 Cumulative impact.

"Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

§ 1508.8 Effects.

"Effects" include:

(a) Direct effects, which are caused by the action and occur at the same time and place.

(b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Effects and impacts as used in these regulations are synonymous. Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.

§ 1508.9 Environmental assessment.

"Environmental Assessment":

(a) Means a public document for which a Federal agency is responsible that serves to:

(1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.

(2) Aid an agency's compliance with the Act when no environmental impact statement is necessary.

(3) Facilitate preparation of such a statement when one is necessary.

(b) Shall include brief discussions of the need for the proposal, of alternatives as required by sec. 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted. Most environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted. Most environmental assessments do not exceed several pages in length.

§ 1508.10 Environmental document

"Environmental Document" includes the documents specified in §§ 1508.9, 1508.11, 1508.13 and 1508.21.

§ 1508.11 Environmental impact statement

"Environmental Impact Statement" means a detailed written statement as required by Sec. 102(2)(C) of the Act.

§ 1508.12 Federal agency.

"Federal agency" means all agencies of the Federal Government. It does not mean the Congress, the Judiciary, or the President, including the performance of staff functions for the President in his Executive Office.

§ 1508.13 Finding of no significant impact.

"Finding of No Significant Impact" means a document by a Federal agency briefly presenting the reasons why an action, not otherwise excluded (§ 1508.4), will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared. It shall include the environmental assessment or a summary of it and shall note any other environmental documents related to it (§ 1501.7(a)(5)).

§ 1508.14 Human environment.

"Human Environment" shall be interpreted comprehensively to include the natural and physical environment and the interaction of people with that environment. (See the definition of "effects" (§ 1508.8).) This means that exclusively economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment.

§ 1508.15 Lead agency.

"Lead Agency" means the agency or agencies which have prepared or have taken primary responsibility to prepare the environmental impact statement.

§ 1508.16 Legislation.

"Legislation" includes a bill or legislative proposal to Congress developed by or with the significant cooperation and support of a Federal agency, but does not include requests for appropriations.[1] The test for significant cooperation is whether the proposal is in fact predominantly that of the agency rather than another source. Drafting does not by itself constitute significant cooperation. Proposals for legislation include requests for ratification of treaties. Only the agency which has primary responsibility for the subject matter involved will prepare a legislative environmental impact statement.

§ 1508.17 Major Federal action.

"Major Federal action" includes actions with effects that may be major and which are potentially subject to Federal control and responsibility. Major reinforces but does not have a meaning independent of significantly (§ 1508.25). Actions include the circumstance where the responsible officials fail to act and that failure to act is reviewable by courts or administrative tribunals under the Administrative Procedure Act or other applicable law as agency action. If a Federal program is delegated or otherwise transferred to State or local government, unless Congress intended otherwise, the Federal agency shall continue to be responsible for compliance with the Act and shall insure the preparation of environmental impact statements if they would be required but for the delegation or transfer. If the Federal agency may legally require the State or local agency to follow an environmental impact statement process, as a condition of the delegation or transfer, it shall do so. If not, the Federal agency shall prepare the statements (except as provided in § 1506.5).

(a) Actions include new and continuing activities, including projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies; new or revised agency rules, regulations, plans, policies, or procedures; and legislative proposals (§§ 1506.8, 1508.16). Actions do not include funding assistance solely in the form of general revenue sharing funds, distributed under the State and Local Fiscal Assistance Act of 1972, 31 U.S.C. 1221 et seq., with no Federal agency control over the subsequent use of such funds. Actions do not include bringing civil or criminal enforcement actions.

(b) Federal actions tend to fall within one of the following categories:

(1) Adoption of official policy, such as rules, regulations, and interpretations adopted pursuant to the Administrative Procedure Act, 5 U.S.C. 551 et seq.; treaties and international conventions or agreements; formal documents establishing an agency's policies which will result in or substantially alter agency programs.

(2) Adoption of formal plans, such as official documents prepared or approved by federal agencies which guide or prescribe alternative uses of federal resources, upon which future agency actions will be based.

(3) Adoption of programs, such as a group of concerted actions to implement a specific policy or plan; systematic and connected agency decisions allocating agency resources to implement a specific statutory program or executive directive.

(4) Approval of specific projects, such as construction or management activities located in a defined geographic area. Projects include actions approved by permit or other regulatory decision as well as federal and federally assisted activities.

§ 1508.18 Matter.

"Matter" includes for purposes of Part 1504:

(a) With respect to the Environmental Protection Agency, any proposed legislation, project, action or regulation as those terms are used in Section 309(a) of the Clean Air Act (42 U.S.C. 7609).

(b) With respect to all other agencies, any proposed major federal action to which Section 102(2)(C) of NEPA applies.

§ 1508.19 Mitigation.

"Mitigation" includes:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impact by replacing or providing substitute resources or environments.

§ 1508.20 NEPA process.

"NEPA process" means all measures necessary for compliance with the requirements of Section 2 and Title I of NEPA.

§ 1508.21 Notice of intent.

"Notice of Intent" means a notice that an environmental impact statement will be prepared and considered. The notice shall briefly:

(a) Describe the proposed action and possible alternatives.

(b) Describe the agency's proposed scoping process including whether, when, and where any scoping meeting will be held.

(c) State the name and address of a person within the agency who can answer questions about the proposed action and the environmental impact statement.

§ 1508.22 Proposal.

"Proposal" refers to that stage in the development of an action when an agency subject to the Act has a goal and is actively considering one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated. Preparation of an environmental impact statement on a proposal should be timed (§ 1502.5) so that the final statement may be completed in time for the statement to be included in any recommendation or report on the proposal. A proposal may exist in fact as well as by agency declaration that one exists.

§ 1508.23 Referring agency.

"Referring agency" means the federal agency which has referred any matter to the Council after a determination that the matter is unsatisfactory from the standpoint of public health or welfare or environmental quality.

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[1] The Council in consultation with OMB had been prepared to propose this wording and § 1508.12 for comment. Thereafter *Sierra Club v. Andrus* (D.C. Cir. No. 75-1871, May 15, 1978) was decided. We would appreciate comment on the implications of that case for these provisions.

§ 1508.24 Scope.

Scope consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement. The scope of an individual statement may depend on its relationships to other statements (§§ 1502.20 and 1508.26). In scoping environmental impact statements agencies shall consider 3 types of actions, 3 types of alternatives, and 3 types of impacts. They include:

(a) Actions (other than unconnected single actions) which may be:

(1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:

(i) Automatically trigger other actions which may require environmental impact statements.

(ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.

(iii) Are interdependent parts of a larger action and depend on the larger action for their justification.

(2) Cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.

(3) Similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. An agency may wish to analyze these actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement.

(b) Alternatives, which include: (1) No action alternative. (2) Other reasonable courses of actions. (3) Mitigation measures (not in the proposed action).

(c) Impacts, which may be: (1) Direct. (2) Indirect. (3) Cumulative.

§ 1508.25 Significantly.

"Significantly" as used in NEPA requires considerations of both context and intensity:

(a) *Context*. This means that the significance of an action must be analyzed in several contexts such as society as a whole (global, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

(b) *Intensity*. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

(2) The degree to which the proposed action affects public health or safety.

(3) Unique characteristics of the geographic area such as proximity to historic sites, park lands, prime farm lands, wetlands, wild and scenic rivers, or ecologically critical areas.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

(8) Whether the action may have a significant adverse effect on an area or site listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

(9) Whether the action may have a significant adverse effect on the habitat or an endangered or threatened species that has been determined to be critical under the Endangered Species Act of 1973.

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

§ 1508.26 Tiering.

"Tiering" refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements or analyses is:

(a) From a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.

(b) From an environmental impact statement on a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as design detail and environmental mitigation). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe.

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